AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE INFLAMMATORY RESPONSE AND OUTCOME IN PATIENTS WITH GASTRO-OESOPHAGEAL CANCER

by

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DEDICATION

I dedicate this thesis to my wife Jennifer, for her continual encouragement and support. To my son James, whose infectious sense of fun was always a welcome distraction and to my parents, for giving me the best possible start.

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DECLARATION

I declare that the work presented in this thesis was carried out solely by myself, as a clinical research fellow in the University Dept of Surgery, Royal Infirmary, Glasgow, except where indicated below:

Measurement of biochemical and haematological data was performed by the hospital laboratory service.

The selection of appropriate tissue-tumour sections was carried out with the assistance of Dr James J. Going, University Dept of Pathology, Royal Infirmary, Glasgow.

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PUBLICATIONS

The work presented in this thesis has resulted in the following publications:

1: Crumley AB, McMillan DC, McKernan M, Going JJ, Shearer CJ, Stuart RC (2006) An elevated C-reactive protein concentration, prior to surgery, predicts poor cancer-specific survival in patients undergoing resection for gastro-oesophageal cancer. *Br J Cancer* 94: 1568-1571

2: Crumley AB, McMillan DC, McKernan M, McDonald AC, Stuart RC (2006) Evaluation of an inflammation-based prognostic score in patients with inoperable gastro-oesophageal cancer. *Br J Cancer* 94: 637-641

3: Crumley AB, Stuart RC, McKernan M, McDonald AC, McMillan DC (2008) Comparison of an inflammation-based prognostic score (GPS) with performance status (ECOG-ps) in patients receiving palliative chemotherapy for gastroesophageal cancer. *J Gastroenterol Hepatol* 23: e325-e329

4: Crumley AB, Stuart RC, McKernan M, Going JJ, Shearer CJ, McMillan DC (2010) Comparison of Pre-treatment Clinical Prognostic Factors in Patients with Gastro-Oesophageal Cancer and Proposal of a New Staging System. *J Gastrointest Surg* 14(5):781-7

5: Crumley AB, Stuart RC, McKernan M, McMillan DC (2010)

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6: Crumley AB, Going JJ, Hilmy M, Dutta S, Tannahill C, McKernan M, Edwards J, Stuart RC, McMillan DC

Interrelationships between tumour proliferative activity, leucocyte and macrophage infiltration, systemic inflammatory response, and survival, in patients selected for potentially curative resection for Gastro-oesophageal cancer.

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SUMMARY OF THESIS

Gastro-oesophageal cancer is the third commonest cause of cancer death in the UK. Each year, there are approximately 16,500 new cases and over 13,000 deaths attributable to the disease. Overall survival is poor with the majority of patients presenting with advanced, inoperable disease and less than 15% surviving 5 years. Even in those who undergo potentially curative resection, fewer than 30% survive 5 years. It is increasingly recognised that it is not only the intrinsic properties of tumour cells which determine tumour spread but also the host inflammatory response. Indeed, the systemic inflammatory response, as evidenced by elevated circulating concentrations of C-reactive protein, prior to surgery, has previously been shown to have independent prognostic value in patients with resectable oesophageal cancer. In addition, in patients with advanced/ inoperable cancer (including patients with advanced gastric cancer) there is evidence that an elevated systemic inflammatory response is associated with poorer survival.

The overall aim of the thesis was to examine the inter-relationships between local and systemic inflammatory responses and cancer specific survival, in patients with gastro-oesophageal cancer.

Chapter 2 examines the relationship between the systemic inflammatory response (as measured by an elevated C-reactive protein concentration) and survival in 120 patients, selected for potentially curative surgery, for gastro-oesophageal cancer. This chapter demonstrated that an elevated C-reactive protein concentration (>10mg/l) was associated with poor survival, independent of tumour stage. This suggests that patients deemed suitable for curative surgery but who have an elevated C-reactive

protein concentration may not benefit from potentially curative surgery, as their 3 year survival is only 7%.

Chapter 3 examines the inter-relationships between tumour proliferation, local host inflammatory response to tumour, macrophage infiltration, the systemic inflammatory response and survival in 100 patients selected for potentially curative surgery for gastro-oesophageal cancer. This chapter shows that low tumour proliferation rate, poor local inflammatory infiltrate and an elevated systemic inflammatory response ((Glasgow Prognostic Score (GPS)) independently predict poor survival. Both low tumour proliferation rate and poor local inflammatory infiltrate are associated with an increased nodal burden but not directly associated with each other. There was no direct relationship between the systemic inflammatory response and the local inflammatory response. This would suggest that the mechanisms underlying the relationship between local and systemic inflammatory responses and cancer-specific survival are likely to be complex.

Chapter 4 examines the relationship between an inflammation based prognostic score (GPS) and survival, in an unselected cohort of 258 patients with inoperable gastro-oesophageal cancer. This chapter demonstrated that the presence of an elevated systemic inflammatory response (as measured by the GPS) was associated with poor cancer specific survival, independent of tumour stage and of treatment received.

Chapter 5 compares the value of the GPS and performance status (ECOG-ps) in evaluating the response to palliative platinum based chemotherapy and survival, in 65 patients with advanced gastro-oesophageal cancer. This chapter demonstrated that an elevated GPS predicted poor survival, poorer clinical response to treatment and an increased need for chemotherapy dose reduction. Performance status however (a tool

commonly used to select patients for chemotherapy), did not predict survival in this cohort.

Chapter 6 examines the relationship between albumin concentration and survival in an unselected cohort of 217 patients with gastric cancer. This chapter demonstrates that although a low albumin concentration (<35 g/l) is associated with poor survival on univariate analysis, its concentration is closely related to that of C-reactive protein. The prognostic value of hypoalbuminaemia is therefore degraded with the inclusion of C-reactive protein and on multivariate survival analysis, albumin is no longer associated with survival. This would suggest that the prognostic power of albumin is secondary to its relationship to an elevated systemic inflammatory response, as measured by an elevated C-reactive protein concentration.

Chapter 7 compares the prognostic value of a number of pre-treatment clinical factors including tumour stage, performance status, weight loss, C-reactive protein concentration and albumin concentration, in 217 patients undergoing staging for gastro-oesophageal cancer. It demonstrated, that only the GPS and clinical tumour stage were independently associated with cancer specific survival.

The results of the chapters taken together demonstrate, that an elevated systemic inflammatory response (as evidenced by the GPS) predicts poorer survival, independent of tumour stage and treatment received in patients with operable and inoperable gastro-oesophageal cancer. This would suggest that measurement of the GPS should be performed routinely as part of clinical staging, to improve stratification of patients and therefore enable a more appropriate allocation of treatment, most likely to benefit.

CHAPTER 1: INTRODUCTION

1.1 Incidence and mortality of gastro-oesophageal cancer

The incidence of gastro-oesophageal cancer varies significantly between country, sex and age. It has been estimated that in 1990, 316,000 new cases of oesophageal cancer were diagnosed globally and 286,000 deaths were attributable to the disease. In the same year, it was estimated that 798,000 new cases of gastric cancer were diagnosed worldwide, with 628,000 deaths attributable to the disease. Together, they represent the most frequent cancer type, worldwide [Parkin et al., 1999b].

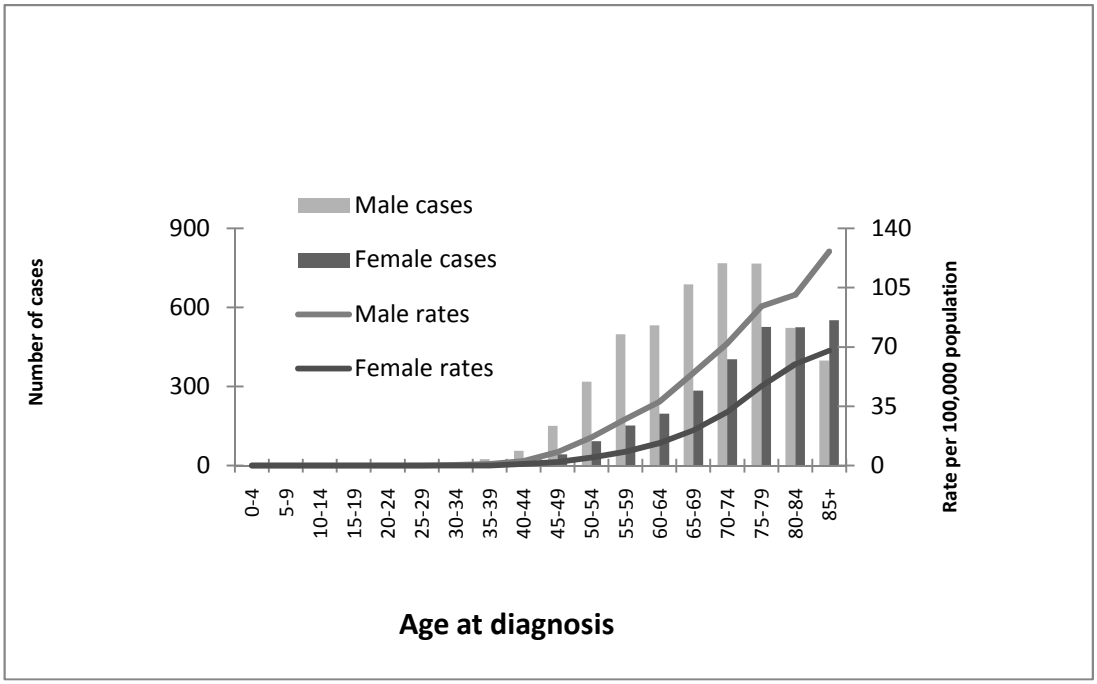
1.1.1 Age

Gastric and oesophageal cancers are predominantly diseases of the elderly. In the United States between 1994-1998, the incidence rate in the 40-44 age-group was 4 per 100,000 rising to 88 per 100,000 in the 80-84 age group [SEER, 2004].

This predominance of tumours with increasing age is mirrored in the UK as a whole, with <5% of tumours diagnosed in people under the age of 40 [Cancer Research UK Information Resource Centre, 2004]. Figure 1.1

In Scotland during 1999, there were 1008 new gastric cancers and 790 oesophageal cancers, of which only 9 and 2 respectively were diagnosed in people under the age of 40 [ISD, 2004].

Figure 1.1 Numbers of new cases and age-specific incidence rates by sex, cancer of the oesophagus, UK 2002



1.1.2 Gender

The majority of gastric and oesophageal cancer is seen in males. World-wide the incidence of gastric and oesophageal cancer in men is more than twice that seen in women (24.5 and 10.2 per 100,000 men, compared with 11.6 and 4.2 women) [Parkin et al., 1999a]. Regionally, the incidence in females is never higher than in males. In North America the incidence of gastric cancer is 8.4 and 5.2 per 100,000, compared with 4.0 and 1.4 in oesophageal cancer, in males and females respectively [Parkin et al., 1999a]. In the UK in 2002, there was a similar distribution between sexes with the incidence of gastric cancer being 16.9 and 6.8 per 100,000, compared with 14.1 and 5.7 in oesophageal cancer, in males and females respectively [Cancer Research UK Information Resource Centre, 2004]. In the same year in Scotland, the incidence of

gastric cancer was 18.6 and 8.1 per 100,000, compared with 18.0 and 7.3 in oesophageal cancer, in males and females respectively [ISD, 2004].

1.1.3 Geography

There is wide variation in the incidence of gastric and oesophageal cancer between countries. For gastric cancer the highest rates are seen in the far East and in particular Japan, where there are 78 new cases per 100,000 men and 33 new cases per 100,000 women [Parkin et al., 1999b]. The global distribution of oesophageal cancer is similar, with high incidence in China and Japan (22 and 10 new cases per 100,000 men respectively). The highest incidence is, however Southern Africa, with 33 new cases per 100,000 men and 12 new cases per 100,000 women [Parkin et al., 1999b]. In Western Europe the incidence of gastric cancer is less than a quarter of that seen in Japan and in North America, the incidence is approximately a tenth of the incidence in Japan [Parkin et al., 1999b]. In North America, the incidence of oesophageal cancer is 6 per 100,000 men and 1 per 100,000 women [Parkin et al., 1999b].

In Scotland there were 20 and 10 new cases of gastric cancer per 100,000 men and women respectively in 1999 [ISD, 2004]. Scotland, also has one of the world's highest incidence of oesophageal cancer, with 19 and 8 new cases per 100,000 men and women respectively in 1999 [ISD, 2004].

1.1.4 Ethnic groups

Not only are there ethnic variations in the incidence of oesophageal and gastric cancer but there are also variations within histological sub-types. For example in the United States, the most recent figures (1992-98), show that the overall incidence rates

for oesophageal cancer varies three fold among different American ethnic groups. African Americans have the highest age adjusted rates (8 cases per 100,000), followed by Whites (4 per 100,000) and Hispanics, native American Indians and Pacific islanders (2.5 per 100,000). In oesophageal squamous cancer, the rate in white American men is 1/6 of that of African Americans (2 and 13 per 100,000 respectively), whereas in oesophageal adeno-carcinoma, the rate in white American men is almost 4 times that seen in African American men (1.5 and 0.4 per 100,000 respectively) [SEER, 2004].

Similar magnitudes of variation in incidence between ethnic groups is seen in gastric cancer. In the USA, the incidence of gastric cancer in African Americans is twice that of white Americans (14 and 7 per 100,000 respectively). The rate in Hispanics is 13 per 100,000 but the highest incidence is found in people from the Pacific Islands (18.5 per 100,000) [SEER, 2004].

1.1.5 Trends

Overall the rates of oesophageal cancer globally have increased in the last 35 years. This is due largely to the increase in rates of oesophageal adenocarcinoma [Pera et al., 1993;Blot et al., 1993;Jankowski et al., 2000]. In African American females the rate increased by 13.8% per year between 1973 and 1995 but the largest increase was seen in Icelandic females; 18.6% per year. The corresponding change in men during the same period was 4.1% and 7.7% per year. In the USA the incidence of oesophageal tumours and tumours of the cardia have risen dramatically since the 1970's [Devesa et al., 1998;Pera et al., 1993]. The incidence in North American white men and African American men increased by 8.6% and 4.1% per year respectively. Squamous cell carcinoma is still the most common type globally and the ratio of the two histological

types varies from equal in South Australian men to 34:1 in African American males [Vizcaino et al., 2002]. In the USA there was a trend towards decreasing rates of oesophageal squamous cancer between 1973 and 1995. The incidence in North American white men decreased by 1.5% per year and the incidence in African American men decreased marginally at 0.6% per year. In the corresponding women, the rate has essentially remained the same (0.1% per year increase and 0.3% per year decrease).

With regards to gastric cancer, most countries in the world have seen a constant declining trend in incidence over the last 30 years [Inoue and Tsugane, 2005;Ajiki et al., 2004;Parkin et al., 1999a]. The cause for this decline is not fully understood but may be due to dietary modification.

The marginal decrease in rates of oesophageal squamous cancer in males was also evident in European countries. In females, however the incidence in several European countries has increased. This is most marked in Switzerland where the incidence has increased by 8.5% per year. The global increase in the rate of oesophageal adenocarcinoma is mirrored in Europe and the incidence appears to be continuing to rise [Bollschweiler et al., 2001]. Locally, in Scotland, the incidence in males and females has increased at a similar rate (3.1% per year and 4.8% per year respectively) [ISD, 2004]. In Scotland, however there was an increase in the incidence of oesophageal squamous cancer in both males and females (0.7% per year and 2.8% per year respectively) [Vizcaino et al., 2002]. In Scotland the incidence of gastric cancer in men and women, has halved between 1980 and 2003 [ISD, 2004].

1.1.6 Deprivation

Increasing deprivation has been shown to be linked with a higher incidence of oesophageal squamous cancer and for gastric cancer in the UK [Brewster et al., 2000;ISD Scotland, 2005] . In contrast, an increasing incidence of oesophageal adeno-carcinomas has been linked to the most affluent socio-economic groups [Dutta et al., 2005].

1.1.7 Mortality of gastro-oesophageal cancer

Globally gastro-oesophageal cancer represents the second most common cause of cancer death behind lung cancer, with 914,000 and 921,000 deaths respectively [Parkin et al., 1999b]. In Scotland in 2004, gastro-oesophageal cancer was responsible for 1416 deaths (9.4% of cancer deaths), making it the third commonest cause of cancer death in Scotland [ISD, 2004].

1.1.7.1 Trends in mortality

Gastric and oesophageal cancer have demonstrated opposite trends in mortality over the last 30 years. Mortality rates from gastric cancer have decreased rapidly in the USA between 1975 and 2002; 8.5 per 100,000 to 4.2 deaths per 100,000 [SEER, 2004]. Oesophageal cancer mortality rates have, conversely risen. In the USA the rates have increased steadily from 3.7 to 4.4 per 100,000 [SEER, 2004].

In the UK, similar trends have been demonstrated. The mortality rates for gastric cancer have also halved over a similar period of time and increased mortality in patients

with oesophageal cancer has been found [Cancer Research UK Information Resource Centre, 2004].

In Scotland, between 1980 and 2004, the mortality rates for gastric cancer in decreased from 23.8 to 14.6 per 100,000 men and the mortality rate for oesophageal cancer rose from 10.6 to 20.9 per 100,000 men [ISD, 2004].

In Scotland, despite the fact that incidence rates are higher in the most affluent group, mortality rates are comparable across the deprivation quintiles [ISD, 2004].

1.2 Aetiology of gastro-oesophageal cancer

1.2.1 Inheritance

Mutations in the E-cadherin (CDH1) gene have been found in families with hereditary diffuse gastric cancer. This is characterised by a highly penetrant susceptibility to diffuse gastric cancer in young people, with an autosomal dominant pattern of inheritance [Caldas et al., 1999;Huntsman et al., 2001]. In addition, there have been reports of inherited gastric cancer [Jones E.G., 1964;Shafiuddin et al., 1995]. However, the vast majority of gastro-oesophageal cancers are sporadic and hereditary genetic mutations make only a small contribution to the overall occurrence of gastric and oesophageal cancer [Hemminki and Jiang, 2002;Lagergren et al., 2000b;Caldas et al., 1999;Dhillon et al., 2001].

1.2.2 Predisposing conditions

There are a number of conditions that confer an increased risk of gastro-oesophageal cancer. Tylosis, an autosomal dominant inherited condition associated with palmoplantar keratosis has been associated with increased risk of oesophageal squamous cancer [Ellis et al., 1994;Stevens et al., 1996]. Surgery for benign peptic ulcers has been shown to increase risk for oesophageal cancer [Lundegardh et al., 1994] and gastric cancer [Macintyre and O'Brien, 1994]. Pernicious anaemia is also known to predispose patients to gastric cancer, carcinoids and squamous oesophageal cancer [Ye and Nyren, 2003]. It is not clear however, if pernicious anaemia predisposes to oesophageal adenocarcinoma [Mellemkjaer et al., 1996]. Despite an increased risk of gastric cancer in patients with pernicious anaemia, endoscopic surveillance is not recommended [Bresky et al., 2003]. Achalasia has been shown to increase risk of squamous oesophageal cancer in large population based studies [Sandler et al., 1995;Brucher et al., 2001]. However, a large number of surveillance endoscopies would have to be performed to identify the relatively small number of tumours and it is not clear as to whether or not this would reduce mortality. Oesophageal adenocarcinoma has been reported in patients with achalasia but overall the incidence is low [Ellis, Jr. et al., 1997].

1.2.3 Gastro-oesophageal reflux

The direct relationship between gastro-oesophageal reflux disease and oesophageal cancer is well recognised [Lagergren et al., 1999a;Chow et al., 1995;Wu et al., 2003], as is the relationship between Barrett's oesophagus and reflux disease

[Spechler and Goyal, 1986;Winters, Jr. et al., 1987]. In the UK, patients with Barrett's oesophagus have a 1% per annum risk of developing oesophageal adenocarcinoma [Jankowski et al., 2002]. The relative risk of developing adenocarcinoma of the oesophagus in patients with Barrett's is greater than 30 times that of the population in general [Van der Veen et al., 1989;Spechler and Goyal, 1986]. It has been suggested that the risk of cancer in patients with Barrett's oesophagus is significantly greater than in patients with longstanding heartburn in the absence of Barrett's [Solaymani-Dodaran et al., 2004]. It is not clear however, whether or not the development of Barrett's oesophagus provides the link between reflux and neoplasia. A systematic review of the literature has shown that around 5% of patients with oesophageal adenocarcinoma had pre-operative Barrett's oesophagus [Dulai et al., 2002]. Furthermore, in Scotland, only 14% of oesophageal adenocarcinomas occur in patients previously known to have Barrett's oesophagus [ISD Scotland, 2005]. An association between reflux disease and cancers of the gastro-oesophageal junction has also been demonstrated but with lesser magnitude [Velanovich et al., 2002;Lagergren et al., 1999a].

1.2.4 Helicobacter pylori

The generally accepted model of carcinogenesis in gastric cancer is thought to result from a continuum of changes from chronic non-atrophic gastritis, multi-focal atrophy, intestinal metaplasia, dysplasia and neoplasia [Correa et al., 1975]. A number of studies have shown there to be a relationship between Helicobacter pylori (H-pylori) and an increased risk of developing gastric cancer and in addition, the World Health Organisation and the International Agency for Research on Cancer has stated that there is now sufficient evidence to classify H pylori as a class I carcinogen [Forman et al.,

1991;Parsonnet et al., 1991;Huang et al., 1998]. Indeed in a study following over 1500 patients who underwent endoscopy and testing for H-pylori, 36 patients in the H-pylori group developed gastric cancer compared with none in the H-pylori negative group [Uemura et al., 2001]. Eslick and co-workers performed a meta-analysis of 8 cohort and 34 case-control studies and concluded that H-pylori conveyed a doubling of the risk of gastric cancer [Eslick et al., 1999]. Similarly, Danesh and colleagues and Xue and co-workers, demonstrated a 2-3 times increased risk of gastric cancer associated with H-pylori [Danesh, 1999;Xue et al., 2001]. In Western populations, gastric cancer is mainly associated with infection by cytotoxin-associated gene A (cagA) strains of the organism [Ekstrom et al., 2001]. Huang and co-workers performed a meta-analysis of case-controlled studies (2284 cases and 2770 controls) investigating the relationship between H-pylori (in particular the cag A strain) and the risk of gastric cancer. In concordance with the above studies, they calculated that infection with H-pylori increased the risk of gastric cancer between 2 and 3 fold.

Although H-pylori infection is strongly associated with gastric cancer, the exact mechanism by which it facilitates malignant transformation is not clear. It is felt to be multi-factorial, with the combination of infection, a permissive environment and genetic host susceptibility required [Egan et al., 2007;Amieva and El Omar, 2008]. With regards to host susceptibility, polymorphisms in the interleukin 1 gene (a pro-inflammatory cytokine), appear to be pivotal in enhancing the host inflammatory response to infection with H-pylori [Noach et al., 1994] and furthermore, certain interleukin 1 alleles are associated with an increased risk of gastric cancer [El Omar et al., 2000;El Omar et al., 2003;Machado et al., 2003].

The association between H-Pylori infection and junctional carcinomas however is not clear. The above studies demonstrated either no link or insufficient data to

analyse [Huang et al., 2003;Eslick et al., 1999;Danesh, 1999]. It has been shown however, that there is a reduced risk of oesophageal adenocarcinoma among individuals with Helicobacter pylori infection in the stomach but an increased level of oesophageal squamous cancer [Ye et al., 2004;Chow et al., 1998a].

1.2.5 Lifestyle factors and risk of gastro-oesophageal cancer

It has long been recognised that tobacco smoking is a risk factor for oro-pharyngeal and oesophageal squamous cancers, with a direct relationship between tar yield and risk of developing cancer having been demonstrated [Brown et al., 2001;Gallus et al., 2003]. The risk of developing a gastro-oesophageal junction tumour or a gastric adeno-carcinoma, is also increased with smoking, albeit to a lesser extent [Engel et al., 2003]. However, whether there is a causal relationship between smoking and oesophageal adenocarcinoma is not clear [Lagergren et al., 2000a;Engel et al., 2003].

Similar to smoking, oesophageal squamous cancer is strongly associated with heavy alcohol consumption [Bagnardi et al., 2001]. Indeed in a large case-control study of American men, the combination of smoking and heavy alcohol intake, along with lower social class and poor intake of fruit and vegetables, accounted for almost all (98%) of oesophageal squamous tumours [Brown et al., 2001]. In contrast however, alcohol consumption does not appear to be a risk factor for adenocarcinoma of the oesophagus or gastro-oesophageal junction [Gammon et al., 1997;Lagergren et al., 2000a;Engel et al., 2003].

The exact nature of the relationship between dietary intake and gastro-oesophageal cancer is not clear. A large population-based survey showed that, diets

with a high plant-based content are associated with lower risk than diets with a high intake of animal-based food [Mayne et al., 2001]. A high fibre diet has been shown to decrease the risk of oesophageal squamous cancers [Mayne et al., 2001]. The link however, appears to be stronger in oesophageal adenocarcinoma and adenocarcinoma of the gastric cardia. Zhang and colleagues performed a hospital based case-control study, over a two year period in patients with cancers of the gastric cardia and oesophageal adenocarcinomas. They found that the risk of cancer was significantly associated with an increased intake of dietary calories and fat and a decreased risk of cancer was associated increased dietary intake of fibre [Zhang et al., 1997]. Similarly, Terry and co-workers performed a large population based case-control study and found that a high intake of cereal fibre was associated with a significantly reduced the risk of adenocarcinoma of the gastric cardia and (to a lesser extent) oesophageal carcinoma [Terry et al., 2001]. People with diets rich in vitamin C, vitamin E and beta carotene are associated with reduced risk of oesophageal and gastric cancers [Ekstrom et al., 2000;Terry et al., 2000;Serafini et al., 2002]. Diets with poor fruit and vegetable intake have been associated with oesophageal cancer in the USA [Engel et al., 2003] and gastric cancer in Brazil [Nishimoto et al., 2002].

The ingestion of nitrates and an increased risk of gastro-oesophageal cancer has also been reported. Nitrates are ingested via drinking water, processed foods, cured meats and smoking, are transformed by gastric acid into nitric oxide and in chronic inflammatory conditions, nitrosating agents are overproduced [Bartsch and Spiegelhalder, 1996;Tricker, 1997]. Overall however, the relationship between nitrates and gastro-oesophageal cancer is not clear, with an association with the development of gastric cancer but insufficient evidence with regards to oesophageal cancer [Jakszyn and Gonzalez, 2006].

Increasing body mass index (BMI) is associated with an enhanced risk of oesophageal adenocarcinoma and carcinoma of the oesophago-gastric junction. Chow and colleagues performed a population based case-control study in the USA. They demonstrated that the risk of adenocarcinoma of the oesophagus or gastro-oesophageal junction was associated with a increasing BMI [Chow et al., 1998b]. They found no correlation, however between increasing BMI and oesophageal squamous cancers or distal gastric cancers. Lagergren and colleagues similarly found a direct relationship between increasing BMI and the risk of developing oesophageal and gastric cardia adenocarcinoma, in a Swedish population based study [Lagergren et al., 1999b]. Again they found no association of high BMI with gastric cancer or with squamous cancer of the oesophagus.

More recently the link between obesity and the risk of cancer death was studied in a cohort of over 900,000 patients in the USA [Calle et al., 2003]. They found that increasing BMI was associated with an increased risk of gastric and oesophageal cancer. It is known that adipocytes are important in the production of pro-inflammatory cytokines. It may be therefore, that obesity provides a direct link between chronic systemic inflammation and the development of cancer.

1.3 Presentation of gastro-oesophageal cancer

Clinical diagnosis of patients with gastro-oesophageal cancer is recognised to be difficult, with correlation of symptoms with endoscopic findings known to be poor [Adang et al., 1996]. In an American study of almost 4,000 patients undergoing endoscopy for dyspepsia, they found that age and symptoms were not effective predictors of endoscopic findings [Wallace et al., 2001]. However, there are several

"alarm symptoms", that have been associated with the diagnosis of gastro-oesophageal cancer; dysphagia, weight loss and age >55 [Kapoor et al., 2005]. These alarm symptoms can help to differentiate between patients with significant organic pathology and those without [Numans et al., 2001]. Indeed, in the study by Kapoor and colleagues, if alarm symptoms were used to identify those patients most likely to have cancer, 92% of patients with underlying cancers would have been appropriately identified [Kapoor et al., 2005].

In contrast, patients presenting with uncomplicated dyspeptic symptoms have been shown to be at low risk of underlying malignancy [Gillen and McColl, 1999]. In a UK study of patients with gastric cancer from a single geographical area over a seven year period, only one patient out of 319 diagnosed with cancer, presented with uncomplicated dyspepsia, under the age of 55 [Christie et al., 1997].

1.4 Diagnosis of gastro-oesophageal cancer

1.4.1 Upper GI Endoscopy

The most commonly used diagnostic tool in gastro-oesophageal cancer, is endoscopy [ISD Scotland, 2005]. Oesophago-Gastro-Duodenoscopy (OGD) is safe and has the advantage over a Barium swallow or meal, that it can provide a histological diagnosis, accurate tumour mapping and avoids ionising radiation [Graham et al., 1982;Abbas et al., 2004].

1.4.2 Barium Swallow/Meal

Barium radiology is also sensitive for the diagnosis of gastro-oesophageal cancer. Its advantages are, that it avoids an invasive procedure and the use of sedation, with its associated (although albeit rare) morbidity and mortality [ISD Scotland, 2005;Abbas et al., 2004]. However, pre-malignant and early cancers, identifiable on endoscopy, may not be identified on barium x-rays and endoscopy is therefore the investigation of choice in patients with suspected gastro-oesophageal cancer [Dooley et al., 1984].

1.5 Staging of gastro-oesophageal cancer

Accurate staging of disease is important for a number of reasons:

- It aids in the selection and planning of appropriate treatment.
- It provides an indication of prognosis.
- It permits standardised evaluation of results and treatment.
- Facilitates exchange of information between centres.

The staging system used most commonly in the Western World is the UICC Tumour, Nodes Metastasis (TNM) classification, [Sobin and Wittekind C, 1997].

Tables 1.1 and 1.2

It is important to differentiate between clinical and pathological staging. Clinical TNM staging (cTNM) is made on pre-treatment findings and is therefore based on the assessment of CT, laparoscopy and Endoscopic Ultrasound (EUS) findings.

Pathological staging (pTNM) is based on the objective assessment of the resected specimen. This information is therefore only available following surgery.

Table 1.1 TNM staging in oesophageal cancer

Primary tumour (T)

T1	Invades lamina propria or submucosa
T2	Tumour invades muscularis propria
T3	Tumour invades adventitia
T4	Tumour invades adjacent structures

Regional lymph nodes (N)

N0	No regional lymph node metastasis
N1	Regional lymph node metastasis

Distant metastasis (M)

M0	No distant metastasis
M1a	
M1b	Distant metastasis

For tumours in the lower thoracic oesophagus:		For tumours in the upper thoracic oesophagus:
M1a	Metastasis in ceoliac lymph nodes	M1a Metastasis in cervical lymph nodes
M1b	Other distant metastasis	M1b Other distant metastasis

For tumours in the mid thoracic oesophagus:

M1a	N/A
M1b	Non-regional lymph node or other distant metastasis

			Stage grouping
I	T1	N0	M0
IIa	T2	N0	M0
IIa	T3	N0	M0
IIb	T1	N1	M0
IIb	T2	N1	M0
III	T3	N1	M0
III	T4	Any N	M0
IV	Any T	Any N	M1
IVa	Any T	Any N	M1a
IVb	Any T	Any N	M1b

Table 1.2 TNM staging in gastric cancer

Primary tumour (T)

T1 Invades lamina propria or submucosa
T2 Tumour invades muscularis propria or sub-serosa
T3 Tumour penetrates serosa without invasion of adjacent structures
T4 Tumour invades adjacent structures

Regional lymph nodes (N)

N0 No regional lymph node metastasis
N1 Metastasis in 1 to 6 regional lymph nodes
N2 Metastasis in 7 to 15 regional lymph nodes
N3 Metastasis in more than 15 regional lymph nodes

Distant metastasis (M)

M0 No distant metastasis
M1 Distant metastasis

Note: Involvement of retro-pancreatic, mesenteric and para-aortic lymph nodes, are classified as distant metastasis.

			Stage grouping
Ia	T1	N0	M0
Ib	T1	N1	M0
Ib	T2	N0	M0
II	T1	N2	M0
II	T2	N1	M0
II	T3	N0	M0
IIIa	T2	N2	M0
IIIa	T3	N1	M0
IIIa	T4	N0	M0
IIIb	T3	N2	M0
IV	T4	N1,2,3	M0
IV	T1,2,3	N3	M0
IV	Any T	Any N	M

There are a number of modalities currently used to stage patients with gastro-oesophageal cancer and are usually used in combination.

1.5.1 Computerised Tomography (CT)

CT is the most commonly used staging investigation in patients with gastro-oesophageal cancer [ISD Scotland, 2005]. It is accurate in detecting distant metastasis but has been shown to be relatively poor in assessing the T and N components of disease stage [Blackshaw et al., 2003]. In a study of 108 consecutive patients undergoing gastrectomy for gastric cancer, pathological T and N stage was compared with CT assessed stage. CT correctly assessed T and N stage in 43% and 51% of patients respectively [Ziegler et al., 1993].

1.5.2 Endoscopic Ultrasound (EUS)

EUS has been demonstrated to increase the accuracy of T and N staging over CT scanning [Kelly et al., 2001]. In addition, the combination of EUS and fine needle aspiration (FNA) cytology of distant nodes has been shown to improve staging accuracy compared to CT and EUS alone [Vazquez-Sequeiros et al., 2003]. In the recent Scottish Audit of Gastro-Oesophageal Cancer (SAGOC) however, EUS was performed in 3% of patients overall [ISD Scotland, 2005].

1.5.3 Laparoscopy

CT scanning is not sensitive in the diagnosis of peritoneal metastasis and the use of laparoscopy has therefore been shown to improve clinical staging, demonstrate

inoperable disease and subsequently reduce the incidence of attempted resection, in patients with inoperable gastric cancers or cancers of the oesophago-gastric junction [Clements et al., 2004;Blackshaw et al., 2003]. In a study of 244 patients with tumours of the stomach or oesophagus, laparoscopy demonstrated inoperable disease in 93 [Molloy et al., 1995]. Blackshaw and co-workers examined the accuracy of laparoscopy in 258 consecutive patients with gastric cancer. They found evidence of metastatic disease in 21 patients at laparoscopy, in whom CT scanning had shown no evidence of widespread disease [Blackshaw et al., 2003].

The importance prognostically of free peritoneal tumour cells using cytology of lavage fluid, is however more controversial. Bryan and co-workers demonstrated a statistically significant difference in survival between the cytology +ve and –ve patients, with a median survival of 122 and 378 days respectively [Bryan et al., 2001]. In addition, in a study of 371 patients undergoing resection for gastric cancer, cytology +ve washings were found to be independently associated with a poorer survival; median survival 14.8 vs 98.5 months [Bentrem et al., 2005].

A separate study by Wilkiemeyer and colleagues however in a smaller cohort, found that no additional prognostic information was conferred by the addition of cytology and no clinically stage III patients were upstaged by cytology [Wilkiemeyer et al., 2004].

1.5.4 Pathological Stage

Pathological tumour stage (pTNM) has been consistently found to be the most important predictor of survival following resection for gastro-oesophageal cancer [Lerut et al., 2004;Barchielli et al., 2001]. Although the pathological T category has been

shown to be independently associated with survival, within the TNM system, the presence of metastatic tumour in lymph nodes has been shown to be of primary importance [Karpeh et al., 2000]. In particular, the ratio of involved nodes, to resected nodes has been demonstrated to better predict survival than positivity of nodes alone [Roder et al., 1994;Siewert et al., 1998].

1.6 Treatment of gastro-oesophageal cancer

The treatment strategy for patients with gastro-oesophageal cancer is dependent on TNM stage, the presence of co-morbid disease and patient wishes. Patients can be classified using the above criteria into operable and inoperable groups.

1.6.1 Treatment of operable gastro-oesophageal cancer

Surgery confers the greatest chance of long-term cure and has the aim of achieving the complete removal of macroscopic and microscopic tumour (R0 resection). It is however associated with significant morbidity and in the UK, mortality rates for oesophago-gastric resections are approximately 10% [Pye et al., 2001;McCulloch et al., 2003;ISD Scotland, 2005]. Mortality and the extent or radicality of the surgery involved is therefore a subject of debate.

In gastric cancer, it has been suggested, that a radical (D2) resection may be associated with increased morbidity and mortality, with no benefit in long-term survival [McCulloch et al., 2004]. However there is some evidence that radical lymphadenectomy is associated with improved long-term survival [Marubini et al.,

2002]. In a randomised trial in the UK, D2 gastrectomy was shown to increase 5 year survival compared to D1 gastrectomy, on multivariate analysis [Edwards et al., 2004].

In oesophageal cancer, extensive lymphadenectomy is felt to improve survival, with the ratio of involved to resected nodes an independent prognostic factor [Tachibana et al., 2000;Roder et al., 1994]. However there are no randomised, control trials comparing limited to radical lymphadenectomy and survival.

The use of neoadjuvant chemotherapy/ chemo-radiotherapy in patients with gastro-oesophageal cancer is controversial. The MRC OE 02 study demonstrated a median survival benefit of 3 months (16 months compared to 13 months) in patients with oesophageal cancer treated with pre-operative cisplatin and 5- Fluorouracil (5FU), compared with surgery alone [MRC Oesophageal cancer working group, 2002]. A further randomised- controlled trial of patients with squamous and adenocarcinomas of the oesophagus however, found no survival benefit with adjuvant chemotherapy [Kelsen et al., 1998].

A meta-analysis of studies investigating the use of neo-adjuvent chemo-radiotherapy compared with surgery alone in patients with oesophageal cancer, found that 3 year survival was superior in the group receiving neo-adjuvent chemo-radiotherapy [Urschel and Vasan, 2003]. However, only one trial in the meta-analysis demonstrated a statistically significant difference in survival and there was significant morbidity associated with neo-adjuvent treatment.

The use of adjuvant or post-operative chemotherapy in patients with oesophageal cancer, has been shown not to confer any survival benefit [Lehnert, 1999]. In addition, it is associated with increased mortality.

In patients with gastric cancer, a meta-analysis has demonstrated no survival benefit comparing surgery alone, with neo-adjuvent chemotherapy [Janunger et al.,

2002]. However, the use of chemotherapy as adjuvant or post operative treatment in patients with gastric cancer, may confer a survival advantage, particularly in node positive patients [Janunger et al., 2002].

1.6.2 Treatment of inoperable gastro-oesophageal cancer

The majority of patients presenting with gastro-oesophageal cancer, have advanced, inoperable disease and are therefore treated with palliative intent [ISD Scotland, 2005].

1.6.2.1 Chemo-radiotherapy

Combined chemo-radiotherapy and radiotherapy alone, can be used as curative treatment for oesophageal adenocarcinomas and squamous cancers but more commonly they are used with palliative intent [Okawa et al., 1989;Allum et al., 2002]. Combined chemo-radiotherapy has been shown to be superior to radiotherapy alone in overall survival but this is, however not without the risk of significant side effects. In a randomised controlled trial, the five year survival in the group treated with radiotherapy and concomitant chemotherapy was 14%, compared with 0% in the radiotherapy group. However, the incidence of severe toxicity and side effects were significantly higher in the combined group, with life-threatening toxicity in 10% and 2% of patients in the combined chemo-radiotherapy and radiotherapy alone groups respectively [Cooper et al., 1999]. Radiation treatment alone is associated with low morbidity and mortality and can provide symptomatic relief from dysphagia, however, systemic disease recurrence is not uncommon [Ask et al., 2003].

A recent meta-analysis of palliative chemotherapy in gastric cancer has demonstrated a survival benefit of between 3 to 9 months [Janunger et al., 2002] . Whilst such palliative treatment may confer a small survival advantage over best supportive care, it's primary aim is the relief of symptoms [Pyrhonen et al., 1995;Murad et al., 1993;Enzinger et al., 1999].

1.6.2.2 Endoscopic Palliation

Insertion of stents for control of malignant dysphagia is a common method of endoscopic palliation. Partially covered metal stents, compared with uncovered stents, provide the best symptom control and lowest complication rate [Vakil et al., 2001].

Ablative therapy with laser is an alternative mode of endoscopic palliation. In a randomised controlled trial of stenting versus laser therapy in patients with oesophageal cancer or cancers of the gastro-oesophageal junction, laser therapy was associated with improved survival compared with stenting and may slow the decline in quality of life [Dallal et al., 2001].

A randomised control trial comparing Photodynamic Therapy (PDT) and laser in 218 patients, has shown PDT to be as efficacious as laser therapy in symptomatic control of dysphagia [Lightdale et al., 1995]. The incidence of minor complications due to photosensitivity in PDT, is significantly greater than the incidence of complications with laser therapy. However perforation due to laser is associated with mortality.

1.7 Pathological determinants of survival in patients with gastro-oesophageal cancer

Although there is a wide geographical variation, overall survival in patients with gastro-oesophageal cancer is comparatively poor. For oesophageal cancer in Europe, overall five year survival is 10% [Sant et al., 2003] and in America similar survival was found, with 15.6% of patients living 5 years [SEER, 2004]. Locally, in Scotland the 5 year survival is similarly poor with only 10% of men and 13% of women surviving 5 years [ISD, 2004].

In gastric cancer, overall survival was greater than for oesophageal cancer. In Europe and in America similar survival was found, with 23.9% of patients living 5 years [Sant et al., 2003;SEER, 2004]. Locally in Scotland, survival is poorer with only 13% of men and 18% of women surviving five years [ISD, 2004].

1.7.1 Established tumour associated determinants of survival

As discussed in chapter 1.7.4, a number of criteria based on the resected specimen predict long-term survival in patients undergoing potentially curative surgery. Increasing pTNM stage, the presence of lymph node metastasis (in particular the ratio of involved nodes to the total number of nodes removed and identified), positive resection margins (R1 resection) and poorly differentiated tumours are associated with poorer survival [Siewert et al., 1998;Roder et al., 1994;Shiu et al., 1989;Robey-Cafferty et al., 1991;Khan et al., 2004]. However, some patients with favourable, conventional prognostic markers unfortunately still have a poor outcome and the identification of alternative prognostic markers would therefore be of considerable benefit.

1.7.2 Tumour proliferation

Ki67 is a large protein, which undergoes phosphorylation and dephosphorylation during mitosis. It is known to be important in cell proliferation but its exact function is unclear [Duchrow et al., 2003;Schluter et al., 1993;MacCallum and Hall, 2000]. Despite the lack of clarity over its function, Ki67 has been shown to have prognostic value in a variety of tumours. In breast cancer in particular, there have been a number of studies which have demonstrated a link between high proliferative activity (as measured by Ki67) and poor survival [Locker et al., 1992;Beck et al., 1995;Chang et al., 1999]. Ki67 has also been shown to be of prognostic value in lung tumours and brain tumours [Pence et al., 1993;Harpole, Jr. et al., 1995;Wakimoto et al., 1996;Ellison et al., 1995]. However, in colorectal cancer the relationship between ki67 and survival is inconsistent, with some studies indicating that high Ki67 expression is associated with poor prognosis and other studies suggesting the converse is true [Palmqvist et al., 1999;Saleh et al., 1999;Kimura et al., 2000].

In patients with oesophageal cancer, high Ki67 expression has been associated with the progression from dysplasia to neoplasia [Polkowski et al., 1995;Xu et al., 2002;Kerkhof et al., 2008]. In addition, in a study of 56 patients with either squamous or adenocarcinoma of the oesophagus undergoing chemo-radiotherapy, increased expression of Ki67 was associated with greater tumour response [Ressiot et al., 2008]. This is in keeping with studies in patients with colorectal cancer, where tumours with a high proliferative activity are more likely to respond to chemotherapy [Allegra et al., 2002;Allegra et al., 2003;Garrity et al., 2004]

The data regarding tumour proliferation and survival in patients with gastric cancer is sparse. In a study of 122 Arab patients with gastric cancer, high tumour

proliferation (as measured by Ki67) was associated with p53 over-expression [Al Moundhri et al., 2005]. Ki67 however, was not an independent prognostic factor. In a separate study analysing cell proliferation and apoptosis in patients with gastric cancer and intestinal metaplasia, increased proliferation rate was found in patients with cancer, compared to metaplasia [Forones et al., 2005]. This was a study however, with 22 patients in each group.

Tenderenda et al, analysed tissue from 58 patients who had undergone radical gastrectomy for adenocarcinoma [Tenderenda et al., 2001]. They investigated the relationship between micro-vessel density and tumour proliferation (as measured by Ki67), p53 expression and tumour stage, type and grade. There was however, no significant relationship between Ki67 and the other variables.

1.8 Host determinants of survival

It has long been recognized that disease progression in cancer patients is not solely determined by intrinsic properties of tumour cells but also by the host response. At present however, decision making regarding the allocation of treatment in patients with gastro-oesophageal cancer is predominately based on tumour factors along with, patient selection based on co-morbidity and performance status. Poor performance status has been shown to predict a poor outcome in patients with advanced gastric and oesophageal disease [Polee et al., 2003;Yoshida et al., 2004;Chau et al., 2004]. The assessment of performance status is however subjective. For example, significant differences in the assessment of performance status have been reported between oncologists, nurses and patients, oncologists being the most optimistic in their assessment and patients the least [Ando M, 2001]. As a result there is continuing

interest in the development of objective and reproducible prognostic scores, which better reflect clinical outcome in patients with advanced cancer. [Bennett and Ryall, 2000;Sloan et al., 2001].

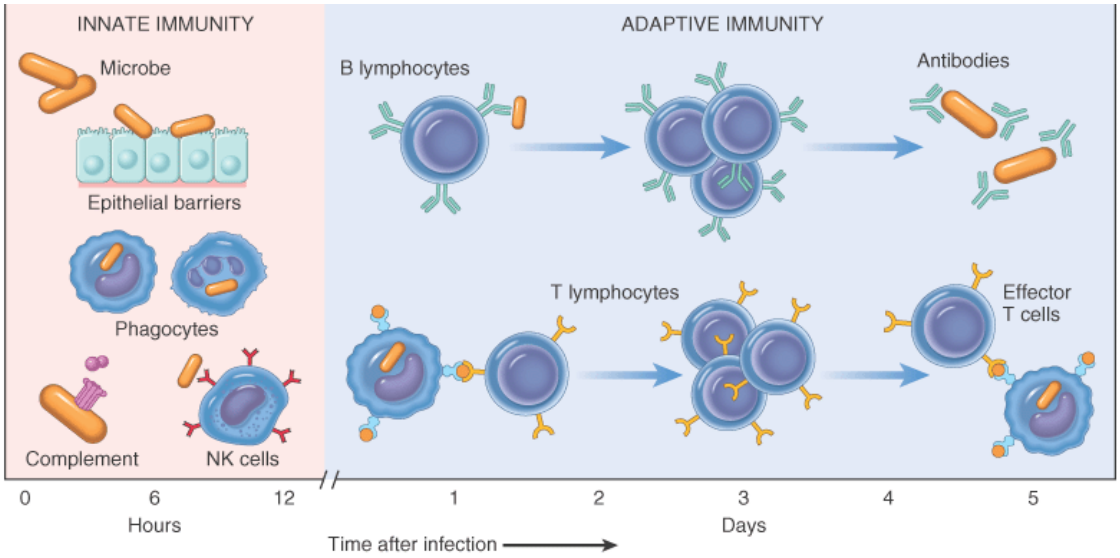
1.8.1 Host Immune response

The purpose of the host immune response is to prevent infection or tissue destruction. The way this is achieved is subdivided broadly into two categories; innate and adaptive immunity. The innate immune system or native immunity is non-specific defence against microbes and is present before an infection takes place. Adaptive immunity or specific immunity, in contrast, is stimulated by microbes or antigens and takes time to become effective. The tumour-host immune interaction is complex and not fully understood.

The main components of the innate immune system are phagocytic cells, such as neutrophils, natural killer cells and macrophages and the complement proteins. Infection by a microbe stimulates the acute inflammatory response, with mobilisation of initially neutrophils, and subsequently macrophages, to engulf and destroy the microbes.

Figure 1.2

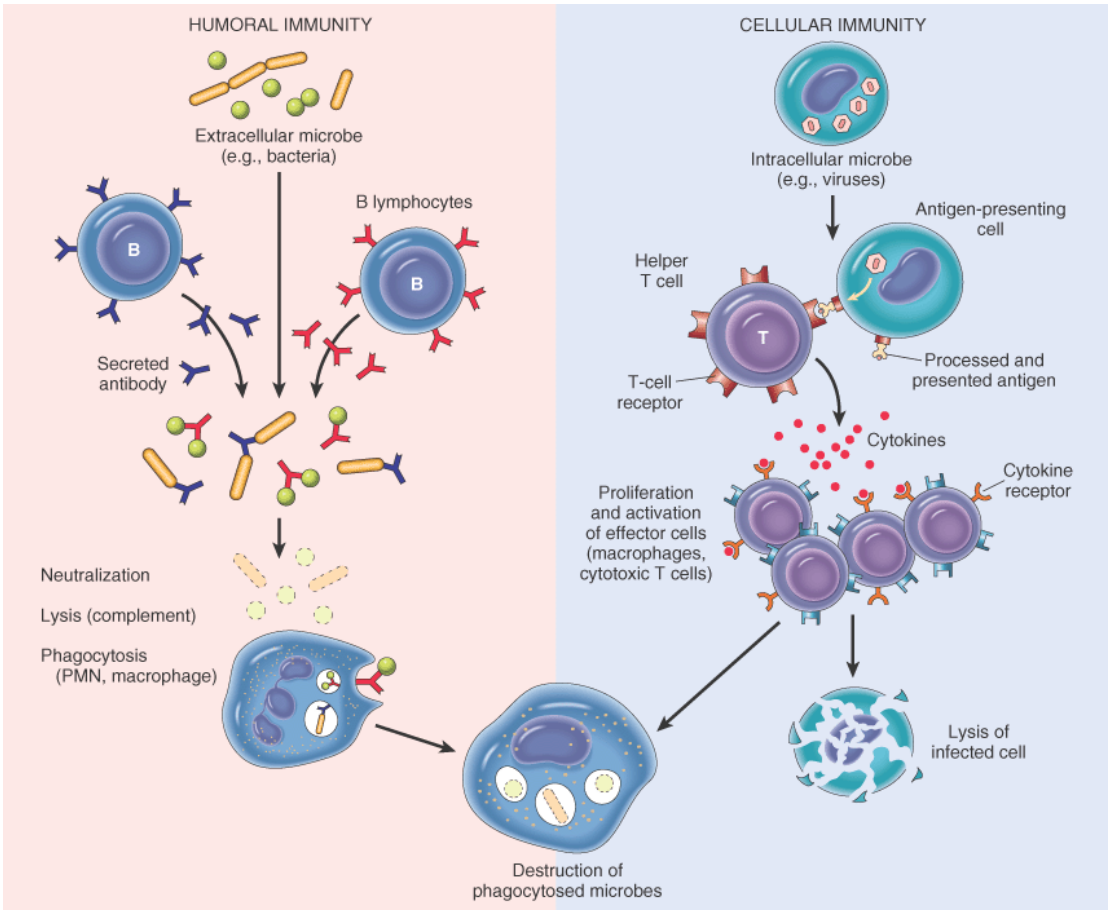
Innate and adaptive immunity (Abbas, 2005).



The adaptive immune system itself, can be divided into two categories; cell mediated immunity and humoral immunity. Cell mediated immunity is responsible for defence against intracellular microbes and is controlled by T lymphocytes from the Thymus. Humoral immunity, in contrast, is responsible for defence against extracellular pathogens and is controlled by B lymphocytes, from bone marrow.

Figure 1.3

Humoral and cell-mediated immunity (Abbas, 2005).



1.8.2 Local inflammatory response in patients with gastro-oesophageal cancer

Since Virchow first observed leucocyte infiltration of tumours, it has been recognised that the local inflammatory response is key to the development of a variety of tumours [O'Byrne and Dalgleish, 2001]. It is known now, that the immune system is able to recognise tumour antigens and local infiltration of tumours by leucocytes may be associated with improved survival [Brigati et al., 2002]

In gastric cancer, it has been shown that, pronounced leucocyte infiltration of the tumour, on haematoxylin and eosin staining of sections, is associated with improved

survival [Ma et al., 1994]. The specific inflammatory cell subtype involved however, is not clear. Schumacher and colleagues examined a consecutive series of 70 resected oesophageal squamous and adenocarcinomas for CD8 infiltration. They found that increased local infiltration of tumour with CD8 lymphocytes was associated with improved survival on multivariate analysis [Schumacher et al., 2001].

1.8.2.1 Macrophages

The relationship between tumour associated macrophages (TAM) and survival is not clear and this in part, may be due to the fact that macrophages have both pro-angiogenic and anti-angiogenic properties [Mantovani et al., 1992;Brigati et al., 2002]. The angiogenic properties of macrophages are secondary to their ability to stimulate production of proangiogenic cytokines, such as vascular endothelial growth factor (VEGF), IL-8 and tumour necrosis factor (TNF), which are known to be crucial in cancer angiogenesis [Carmeliet and Jain, 2000]. Increased infiltration of cancers by TAM has therefore been shown to be associated with poor cancer specific survival in a number of tumour types, including breast, cervical and malignant melanoma [Leek et al., 1996;Torisu et al., 2000;Salvesen and Akslen, 1999].

In contrast, increased macrophage infiltration of tumour has also been associated with improved survival [Shimura et al., 2000;Pupa et al., 1996]. This may be as a result of increased stimulation of production of angiostatic cytokines by macrophages, such as IL-12 and IL-18 [Tsung et al., 2002;Belardelli and Ferrantini, 2002;Coughlin et al., 1998].

There are no reported studies analysing the relationship between macrophage infiltration of oesophageal cancer and survival. Increased infiltration of tumour

associated macrophages (CD68) to cancer nest cells has been shown to be associated with improved survival however in gastric cancer [Ohno et al., 2003]. Ohno and colleagues examined the relationship between tumour associated macrophages and survival, in 84 patients who had undergone resection for T2 and T3 adenocarcinoma. They found, that increased TAM in the cancer nest cells was associated with improved survival on multi-variate analysis.

1.8.3 Systemic Inflammatory response

Inflammation is the generic, physiological response to cell injury or damage. It can be activated by a number of stimuli, including infection, trauma, malignancy or hypersensitivity reactions. Its role is not fully understood but is thought to be to restore tissue function. Changes distant from the local stimulus to inflammation, often accompany the local inflammatory reaction and are felt to be mediated by cytokines and in particular, interleukin-6 [Heinrich et al., 1990]. These changes include neuro-endocrine, haemopoietic, metabolic and hepatic phenomenon and this cascade of changes is referred to as the “acute phase response” Table 1.3. The concentration of a number of plasma proteins rise or fall significantly as part of the acute phase response and they are accordingly named “acute-phase proteins” [Gabay and Kushner, 1999]. However, it has been shown that a persistent response is seen in many patients, including those with malignant disease. It has therefore been suggested that the term “systemic inflammatory response” is used to reflect the sometimes chronic nature of the systemic response to inflammation.

Neuroendocrine changes

Fever, somnolence, and anorexia
Increased secretion of corticotropin-releasing hormone,
Decreased production of insulin-like growth factor I
Increased adrenal secretion of catecholamines

Hematopoietic changes

Anemia of chronic disease
Leukocytosis
Thrombocytosis

Metabolic changes

Loss of muscle and negative nitrogen balance
Decreased gluconeogenesis
Increased hepatic lipogenesis
Increased lipolysis in adipose tissue
Decraesed lipoprotein lipase activity in muscle and adipose tissue
Cachexia

Hepatic changes

Increased metallothionein, inducible nitric oxide synthase,
tissue inhibitor of metalloproteinase-1
decreased phosphopyruvate carboxykinase activity
hypozincemia, hypoferremia, and hypercupremia
increased plasma retinol and glutathione concentrations

Table 1.3 Systemic changes associated with the acute phase response.

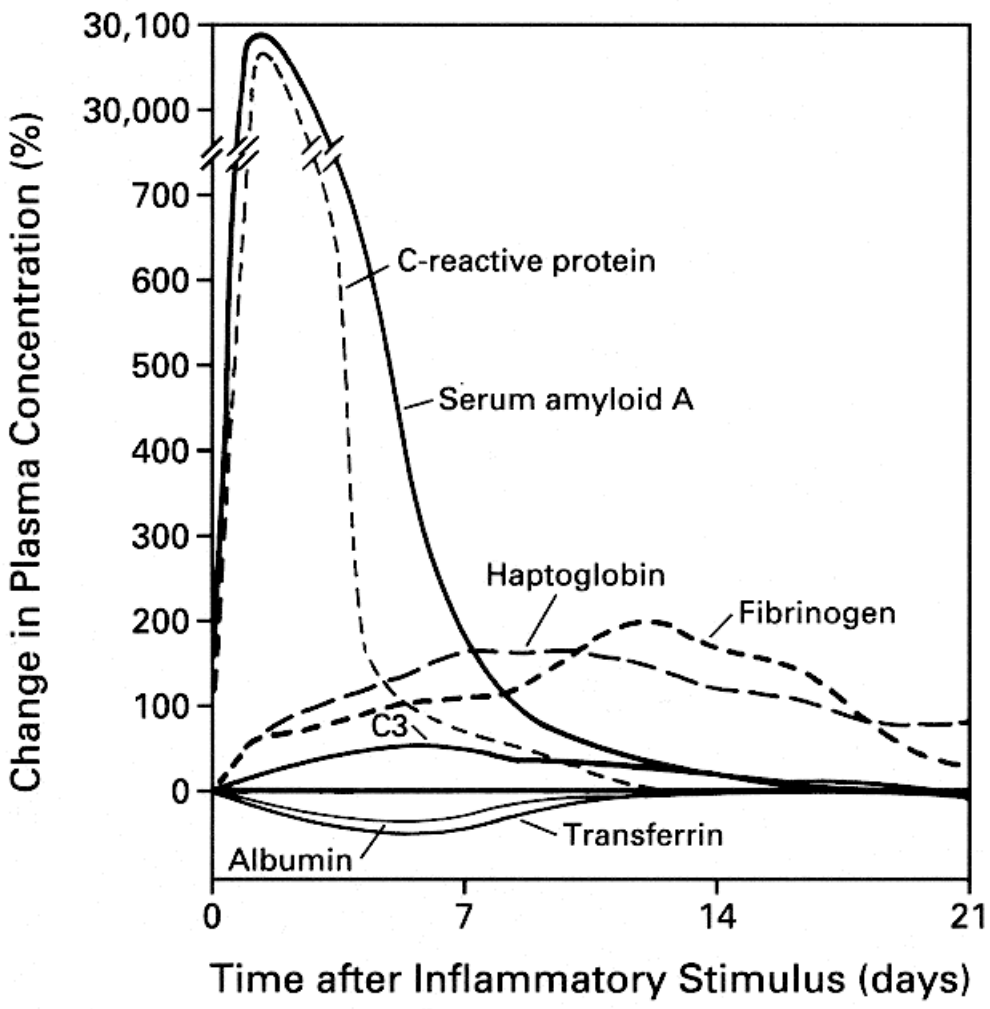
1.8.4 The acute phase proteins

To be described as an acute-phase protein, the serum concentration must either decrease or increase by at least 25% during inflammatory disorders [Morley and Kushner, 1982]. A number of acute phase proteins have been identified (Table 1.4). The magnitude and timing of their response however, varies greatly (figure 1.4). C-reactive protein and amyloid A for example, exhibit a fast and significant response compared to the slower and more sustained response of haptoglobin. The acute phase proteins C-reactive protein and albumin are the two most commonly measured, due to their well standardised assays and sensitivity.

Table 1.4 The major acute-phase proteins

Protein Types	**Increased**	**Decreased**
Proteinase inhibitors	α-antitrypsin	
Coagulation proteins	Fibrinogen Prothrombin Plasminogen Factor VIII	
Complement Proteins	C1-5 C56	Properdin
Miscellaneous	C-reactive protein Serum Amyloid A Haptoglobulin Caeruloplasmin	Albumin HDL LDL

Figure 1.4: Characteristic patterns of change in plasma concentrations of some acute phase proteins after a moderate inflammatory stimulus (Gabay and Kushner,1999).



1.8.4.1 C-reactive protein.

C-reactive protein is a non-specific, acute phase protein, was first described in 1930 and was named due to its ability to bind to the C-polysaccharide in the pneumococcal cell wall. It has been shown to activate the complement cascade, act as an opsonin and bind to monocytes, stimulating cytokine production [Ballou and Lozanski, 1992;Du Clos, 2000]. It is synthesised by hepatocytes in response to pro-inflammatory cytokines, such as, interleukin-1 (IL-1), interleukin-6 (IL-6) and tumour necrosis factor alpha (TNF-α) [Du Clos, 2000]. The production of CRP increases rapidly (approx 6h) following a single inflammatory stimulus, reaching peak concentrations at 48h, with a doubling rate of 8h [Kushner et al., 1978]. Concentrations greater than 200 mg/l can be measured within 24h of an acute stimulus and can fall to near normal within 2-3 days of cessation [Kolb-Bachofen, 1991]. The sensitivity and rapid response of CRP to inflammation has lead to it becoming a useful tool in the monitoring of patients with inflammatory diseases [Werner et al., 2003].

1.8.4.2 Albumin

Albumin is the most abundant protein in plasma, accounting for around half of the hepatic protein production. Unlike C-reactive protein, albumin has a long plasma half-life of around twenty days, compared with 19 hours for C-reactive protein. Albumin concentration is the standard, objective, biochemical factor used routinely in clinical practice to assess nutritional status. Following stimulation of the systemic inflammatory response, serum albumin concentrations fall. The mechanism of this fall in patients with cancer however is complex, with low albumin concentrations found

secondary to a combination of poor nutritional intake and increased catabolism [Al Shaiba et al., 2004;McMillan et al., 2001b].

Hypo-albuminaemia has been identified as an independent predictor of survival in resectable colon and rectal cancer [Heys et al., 1998b], resectable and advanced breast cancer [Heys et al., 1998a;Lis et al., 2003].

Lien et al investigated the relationship between pre-operative serum albumin concentration and survival in more than 300 patients undergoing resection for gastric cancer. They found that an albumin concentration of < 35 g/dl was associated with poorer survival independent of TNM stage and whether or not patients underwent curative resection [Lien et al., 2004]. C-reactive protein concentration was however, not measured in any of the above studies.

1.8.5 Systemic inflammatory response and survival

Survival, in patients with cancer is determined by a complex interaction of tumour biology and the host response. Production of pro-inflammatory cytokines, whether by the tumour or the host, stimulates the release of acute phase proteins, including C-reactive protein [Tisdale, 1999;Barber et al., 2000]. This increased production of acute phase proteins, leads to the consumption of amino acids and the breakdown of host muscle is therefore required to continue this supply of amino acids [McMillan et al., 1998;Preston et al., 1998]. Chronically increased production of acute phase proteins may therefore contribute to the irreversible wasting and decline in patients with advanced cancer. In addition to the catabolic effect of pro-inflammatory cytokines, they may also influence survival by promoting the growth of the tumour [Abramovitch et al., 1999;Balkwill and Mantovani, 2001].

An elevated systemic inflammatory response (as evidenced by an increased C-reactive protein concentration) has been found to be associated with a poor survival in patients with a variety of cancers including those with either operable or inoperable/ advanced disease. The bulk of this evidence is in patients with colorectal cancer, where increased C-reactive protein concentration is associated with more advanced tumour stage and decreased survival [McMillan et al., 1995;Nozoe et al., 1998;1995;Wigmore et al., 2001;Nielsen et al., 2000;Wigmore et al., 2001;McMillan et al., 2003;Miki et al., 2004]. However there is now evidence that an elevated systemic inflammatory response predicts poor survival in most solid tumour types [Mahmoud and Rivera, 2002]. In both operable and inoperable primary hepatico-pancreatico-biliary tumours, an elevated C-reactive protein concentration predicts poor survival [Jamieson et al., 2005;Hashimoto et al., 2005]. Similarly, In ovarian cancer [Kodama et al., 1999], renal cancer [Masuda et al., 1998], bronchial cancer [Scott et al., 2002] and breast cancer [Albuquerque et al., 1995], increased C-reactive protein concentrations predicted poorer survival. In addition, it has been shown that an elevated C-reactive protein and hypoalbuminaemia may be combined to form a score, the Glasgow Prognostic score (GPS), which has prognostic value, independent of stage and performance status, in patients with inoperable non-small cell lung cancer [Forrest et al., 2004;Forrest et al., 2003].

1.8.5.1 Systemic inflammatory response and survival in patients with inoperable gastro-oesophageal cancer.

There is little evidence in patients with inoperable gastric or oesophageal cancer, regarding the relationship between an elevated systemic inflammatory response and survival. An increased C-reactive protein concentration and hypo-albuminaemia, either alone or in combination, have however been shown to predict decreased survival in a

heterogeneous group of patients with advanced cancer, including gastric cancer [McMillan et al., 2001a;O'Gorman et al., 2000]. In a further study of 165 patients with advanced cancer (66 with gastric cancer) median survival in the gastric cancer group was 6.1, 3.1 and 1.6 months in patients with a GPS of 0, 1 and 2 respectively [Elahi et al., 2004]. The relationship between an elevated systemic inflammatory response and survival, has not to date been examined specifically in patients with inoperable gastro-oesophageal cancer.

1.8.5.2 Systemic inflammatory response and survival in patients with operable gastro-oesophageal cancer.

The relationship between the presence of an elevated systemic inflammatory response and poor outcome in patients with gastro-oesophageal cancer, has been previously confirmed. Specifically, an elevated serum C-reactive protein concentration, prior to surgery, has previously been shown to have independent prognostic value in patients with resectable oesophageal cancer [Nozoe et al., 2001;Ikeda et al., 2003;Shimada et al., 2003].

Nozoe and colleagues [Nozoe et al., 2001] analysed 262 patients with oesophageal carcinoma (245 squamous cell carcinomas and 17 adenocarcinomas) treated with surgery over a 7 year period. Their cohort included patients receiving neo-adjuvent therapy and also patients with T4 disease. Eighty four patients had an elevated C-reactive protein concentration (>5mg/l) and this was associated with poorer survival on multivariate analysis.

Ikeda et al [Ikeda et al., 2003], analysed 356 patients with oesophageal squamous carcinoma, over a 9 year period. All patients underwent oesophagectomy, with neo-adjuvent and adjuvant chemo/ radiotherapy given to a subset of patients One

hundred and forty nine patients had an elevated C-reactive protein concentration (>5mg/l) and again this was associated with poor cancer specific survival. This study also included patients with advanced disease.

Shimada and colleagues [Shimada et al., 2003] investigated the relationship between an elevated C-reactive protein concentration and survival in 150 patients undergoing oesophagectomy. In this study all patients had squamous cell tumours, received no pre-operative therapy and the cut-off for an elevated C-reactive protein concentration was >10mg/l. Thirty five patients had an elevated C-reactive protein concentration and on multivariate analysis, this was again associated with poor survival.

Only one paper investigating the relationship between pre-operative C-reactive protein and survival in gastric cancer could be identified from the literature, published in 1983. De Mello et al looked at 100 patients with gastric cancer and found that an elevated C-reactive protein concentration > 20mg/l, was associated with more advanced TNM stage and an increased likelihood of inoperability [de Mello et al., 1983]. However C-reactive concentration protein, did not independently predict survival on multivariate analysis. The relevance of this study however, in the context of current staging and operative practice is questionable.

1.9 Aims

The overall aim of the thesis was to examine the inter-relationships between local and systemic inflammatory responses and cancer specific survival, in patients with gastro-oesophageal cancer.

More specifically:

To determine how markers of the systemic inflammatory response might be used to predict outcome, independent of tumour stage and other patient related factors, in patients undergoing treatment for operable and inoperable gastro-oesophageal cancer.

To examine the relationship between local and systemic inflammatory responses and outcome in patients undergoing potentially curative resection.

To examine how such information might be used in the pre-treatment clinical staging of patients with gastro-oesophageal cancer

CHAPTER 2: AN ELEVATED C-REACTIVE PROTEIN CONCENTRATION, PRIOR TO SURGERY, PREDICTS POOR CANCER SPECIFIC SURVIVAL IN PATIENTS UNDERGOING RESECTION FOR GASTRO-OESOPHAGEAL CANCER

2.1 Introduction

In patients with gastro-oesophageal cancer, surgery confers the greatest chance of long-term cure but is associated with appreciable morbidity and mortality. As a consequence, potentially curative surgery is carried out relatively infrequently. The prognosis for patients who undergo potentially curative resection, is influenced by various pathologic characteristics of the resected tumour specimen. In particular, residual tumour (R), lymph node status and the ratio of positive to total lymph nodes sampled have been shown to have independent prognostic value [Roder et al., 1994;Siewert et al., 1998].

It is increasingly recognised that it is not only the intrinsic properties of tumour cells which determine tumour spread but also the host inflammatory response [Balkwill and Mantovani, 2001;Coussens and Werb, 2002]. Indeed, the systemic inflammatory response, as evidenced by elevated circulating concentrations of C-reactive protein, has been shown to be a disease independent prognostic factor in a variety of tumours, when resections are carried out with curative intent [McMillan et al., 2003;Jamieson et al., 2005;Hilmy et al., 2005].

An elevated serum C-reactive protein concentration, prior to surgery, has previously been shown to have independent prognostic value in patients with resectable

oesophageal cancer [Nozoe et al., 2001;Ikeda et al., 2003;Shimada et al., 2003]. However, some of these studies included patients with metastatic disease at the time of surgery and used variable C-reactive protein thresholds. To date, the prognostic value of C-reactive protein has not been examined in patients undergoing potentially curative resection for gastric cancer.

The aim of the present study was to examine the relationship between clinico-pathologic status, C-reactive protein concentration measured prior to surgery and cancer specific survival, in patients selected for potentially curative resection of gastro-oesophageal cancer.

2.2 Patients and methods

2.2.1 Patients

Patients selected for potentially curative resection of gastro-oesophageal cancer (between January 1996 and December 2004) and who had a pre-operative measurement of C-reactive protein were included in the study. For gastric cancers, TNM stage I to III tumours were considered to be amenable to curative surgical resection. For oesophageal cancers, TNM stage I to III tumours, excluding T4, were considered to be amenable to curative surgical resection. Measurements of haemoglobin, white cell, lymphocyte and platelet counts, albumin and C-reactive protein were carried out prior to staging laparoscopy or surgery. All patients underwent en-bloc resection with lymphadenectomy (median 20, range 3-55 nodes resected). All patients were treated in the upper GI surgical unit at Glasgow Royal Infirmary and survived at least 30 days following surgery. Patients undergoing neo-adjuvant chemotherapy or radiotherapy were excluded.

Data for 1996–1998 (n= 16) were collected retrospectively and that for 1999–2004 (n= 104) prospectively.

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

2.2.2 Methods

The extent of tumour spread was recorded using the TNM stage. Tumours of the gastro-oesophageal junction were further classified according to site, using the Siewert system [Siewert and Stein, 1998]; type 1 and 2 lesions of the gastro-oesophageal junction were designated as cancers of the oesophagus. Type 3 tumours of the cardia were designated gastric cancers.

Routine pre-operative laboratory measurements of albumin and C-reactive protein were carried out. The coefficient of variation for this method, over the range of measurement, was less than 5% as established by routine quality control procedures. The limit of detection of the assay is a C-reactive protein concentration of less than 5mg/l with the upper limit of normal values being ≤10mg/l. Based on previous work [O'Gorman et al., 2000;McMillan et al., 2001a] a C-reactive protein concentration of greater than 10mg/l was considered to indicate the presence of a systemic inflammatory response.

2.2.3 Statistics

Data are presented as median and range. Comparisons between groups of patients were carried out using contingency table analysis (X^2) as appropriate. Grouping of the laboratory variables haemoglobin, white cell, lymphocyte and platelet counts, albumin and C-reactive protein, protein was carried out using standard thresholds [O'Gorman et al., 2000;McMillan et al., 2001a;Ikeda et al., 2002;Maltoni et al., 2005;Shen et al., 2005]. Survival (cancer-specific) analysis of the group variables was performed using the Cox proportional hazard model. Deaths up to the end of February 2006 have been included in the analysis. Multivariate survival analysis, including all covariates that were significant on univariate analysis, was performed using a stepwise backward procedure to derive a final model of the variables that had a significant independent relationship with survival. To remove a variable from the model, the corresponding P-value had to be greater than 0.10. Analysis was performed using SPSS software (SPSS Inc., Chicago, IL, USA).

2.3 Results

Baseline clinicopathological characteristics of the patients (n= 120) studied are shown in Table 2.1. The majority of patients were male, under 65 years and had adenocarcinoma. The majority of patients had localised disease with clear resection margins and therefore underwent potentially curative surgery (n= 99). Of the remaining 21 patients, 3 patients were found to have metastasis at the time of surgery; 1 patient with a small bowel deposit, 1 patient with a single liver deposit and 1 patient with metastatic disease affecting the terminal ileum/ascending colon. The remaining 18 patients had positive circumferential resection margins of the oesophagus (tumour

<1mm from resection margin). No patients had positive longitudinal margin involvement.

The majority of patients had laboratory based measures including haemoglobin, white cell, lymphocyte and platelet counts, albumin and C-reactive protein concentrations in the normal range. Fifteen patients (13%) had an elevated circulating C-reactive protein concentration (>10mg/l) prior to surgery.

During the follow-up period 60 (50%) patients died; 58 of their disease. The median follow-up of the survivors was 55 months. On univariate analysis, pTNM stage ($p<0.01$), lymph node status ($p<0.01$), positive to total lymph node ratio ($p<0.001$) and pre-operative C-reactive protein ($p<0.001$) were significantly associated with survival (Table 2.1). On multivariate analysis of these significant variables, positive to total lymph node ratio (HR 2.02, 95%CI 1.44-2.84, $p<0.001$, Figure 2.1) and pre-operative C-reactive protein (HR 3.53, 95%CI 1.88-6.64, $p<0.001$, Figure 2.2) retained independent significance.

The pre-operative values of C-reactive protein at the thresholds of >5mg/l and >10mg/l were compared in multivariate survival analysis. In this analysis, the prognostic significance of the threshold of >10mg/l ($p=0.013$) was greater than >5mg/l ($p= 0.559$).

The relationship between the presence of an elevated pre-operative C-reactive protein concentration and clinicopathological characteristics are shown in Table 2.2. There was no significant difference in age, sex, tumour site, tumour type, pTNM stage, presence of positive resection margins, lymph node status, positive to total lymph node ratio, haemoglobin, white cell, lymphocyte and platelet counts and albumin groupings between the inflammatory and non-inflammatory groups. In contrast, a greater

proportion of patients had a lower haemoglobin ($p<0.05$) and percentage lymphocyte counts ($p<0.001$) in the elevated systemic inflammatory response group.

The patient group with no evidence of a pre-operative systemic inflammatory response (C-reactive protein $\leq$10mg/l) had a median survival of 79 months compared with 19 months in the elevated systemic inflammatory response group ($p<0.001$). The 1 and 2 year survival rates in the patient group with no evidence of a pre-operative systemic inflammatory response were 83% and 72% respectively compared with 67% and 33% respectively in the elevated systemic inflammatory response group.

2.4 Discussion

Surgical resection remains the best prospect for long term survival in patients with gastro-oesophageal cancer. Currently, in patients undergoing surgery, prognostic factors are based on the pathological findings from the resected tumour. However, this means that the assessment of prognosis occurs after a major operation with significant morbidity and mortality. Therefore, it is of interest that in the present study an elevated circulating concentration of C-reactive protein (>10mg/l) measured pre-operatively, was associated with poor survival, independent of the pathological positive to total lymph node ratio or pTNM stage. In contrast, neither anaemia, leukocytosis, lymphocytopaenia or thrombocytosis predicted survival in this group of patients undergoing resection for gastro-oesophageal cancer.

There have been 3 previous studies from Japan that have shown the prognostic value of an elevated C-reactive protein concentration in patients undergoing resection for oesophageal cancer. However, in contrast with the present study, they included patients with primarily (>90%) squamous tumours [Nozoe et al., 2001;Ikeda et al., 2003;Shimada et al., 2003], patients receiving neo-adjuvant treatment [Nozoe et al.,

2001;Ikeda et al., 2003], patients who had advanced disease prior to surgery [Nozoe et al., 2001;Ikeda et al., 2003], they used a threshold for C-reactive protein of >5mg/l [Nozoe et al., 2001;Ikeda et al., 2003] and the positive to total lymph node ratio was not assessed [Nozoe et al., 2001;Ikeda et al., 2003;Shimada et al., 2003].

In contrast to the above studies the majority of patients in the present study had adenocarcinoma, reflecting the prevailing type in the Western World. Also, only those patients who underwent potentially curative resection and did not receive neo-adjuvant treatment were included in the present study. In these patients the positive to total lymph node ratio was prognostic independent of an elevated C-reactive protein concentration, prior to surgery.

Therefore, the results of the present study are consistent with C-reactive protein, measured prior to surgery, having prognostic value independent of established pathological criteria in patients with resectable oesophageal cancer [Nozoe et al., 2001;Ikeda et al., 2003;Shimada et al., 2003]. Moreover, we have shown that an elevated C-reactive protein concentration, prior to surgery, is associated with poor cancer specific survival in patients undergoing potentially curative resection for gastro-oesophageal adenocarcinoma.

It was of interest that the threshold for C-reactive protein (>10mg/l) which we established in previous studies in patients with gastro-intestinal cancer [O'Gorman et al., 2000;McMillan et al., 2001a;McMillan et al., 2003] was superior to that (>5mg/l) used in previous prognostic studies in oesophageal cancer [Nozoe et al., 2001;Ikeda et al., 2003]. Moreover, compared with patients undergoing potentially curative resection for colorectal cancer in the same institution [McMillan et al., 2003], the proportion of patients who had an elevated circulating concentration of C-reactive protein (>10mg/l) pre-operatively was lower in the present study (13% vs 28%). This probably reflects,

given the increased morbidity and mortality associated with gastro-oesophageal surgery, a more selective approach than that in colorectal cancer. The use of an elevated C-reactive protein concentration as a poor prognostic factor, in this highly selected cohort, is therefore only relevant in 13% of cases.

Nevertheless, taken together these results show the utility of C-reactive protein in the pre-operative assessment of patients undergoing potentially curative surgery for gastrointestinal cancer. Indeed, the combination of pathological stage and C-reactive protein has recently been used to improve the prediction of outcome in patients who underwent potentially curative resection for colorectal cancer [Canna et al., 2004].

The basis of the independent relationship between an elevated C-reactive protein concentration and poor survival in gastro-oesophageal cancer is not clear. There are a number of possible explanations. Firstly, that an elevated C-reactive protein identifies those patients with an impaired T-lymphocytic response, since poor infiltration of gastrointestinal tumours appears to be associated with poor outcome [Schumacher et al., 2001;Ali et al., 2004] and an elevated C-reactive protein concentration has recently been shown to be inversely associated with T-lymphocyte subset infiltration [Canna et al., 2005]. Indeed, in the present study an elevated C-reactive protein concentration was associated with greater proportion of patients having lymphocytopenia.

An alternative explanation is that an elevated C-reactive protein concentration may identify those patients with a pro-angiogenic environment, since angiogenesis is associated with poor outcome in patients with gastrointestinal tumours [Tanigawa et al., 1997;Fondevila et al., 2004] and circulating concentrations of vascular endothelial growth factor are directly associated with C-reactive protein [Xavier et al., 2006]. Clearly, both these mechanisms may be related and promote unrestrained tumour

growth and the dissemination required for the greater malignant potential associated with an elevated C-reactive protein concentration.

This is a relatively small study in a single centre and requires verification in large cohorts in other centres. If an elevated C-reactive protein concentration is confirmed to predict a poorer prognosis, it may be the case that patients staged to have potentially resectable gastro-oesophageal cancer, yet a high inflammatory profile pre-operatively, should not undergo surgery as a sole treatment. It may be that future trials of neoadjuvant or adjuvant chemo-radiotherapy, could utilise measurement of C-reactive protein concentration as a selection criteria. Alternatively, modulation of the systemic inflammatory response may be a useful approach in these patients in the peri-operative period.

In summary, the results of the present study indicate that, in patients, selected to undergo potentially curative resection for gastro-oesophageal cancer, the presence of an elevated C-reactive protein concentration pre-operatively (>10mg/l) is an independent predictor of poor cancer specific survival.

Table 2.1. Characteristics of patients selected for potentially curative resection for gastro-oesophageal cancer: Univariate survival analysis

	Patients (n= 120)	Hazard ratio (95% CI)	(p-value)
Age (≤65/ 65-74/ ≥75 years)	60/ 47/ 13	1.34 (0.92-1.95)	0.132
Sex (m/ f)	80/ 40	1.18 (0.69-2.04)	0.543
Tumour site (Oesophageal/ gastric)	60/ 60	1.28 (0.76-2.14)	0.358
Tumour type (adenocarcinoma/ squamous)	100/ 20	1.24 (0.63-2.47)	0.530
pTNM Stage (I/ II/ III/ IV)	32/ 35 /49/ 4	1.59 (1.15-2.21)	0.006
Resection margin R0/ R1	99/ 19	1.49 (0.79-2.83)	0.218
Lymph node status (-/ +)	44/ 74	2.84 (1.49-5.41)	0.002
Positive to total lymph node ratio (0/ ≤0.2/ >0.2)	44/ 41/ 33	2.03 (1.45-2.86)	<0.001
Haemoglobin (≥12/ <12 g/l)	95/ 23	1.42 (0.76-2.65)	0.267
White cell count (<8.5/ 8.5-11.0/ >11.0 10^9/l)	79/ 30/ 9	1.05 (0.70-1.58)	0.800
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	97/ 17/ 4	1.38 (0.83-2.30)	0.211
Platelets (<400/ ≥400 10^9/l)	110/ 7	0.69 (0.22-2.23)	0.541
Albumin (≥35/ <35g/l)	117/ 2	0.96 (0.13-7.00)	0.970
C-reactive protein (≤10/ >10mg/l)	105/ 15	3.51 (1.89-6.53)	<0.001

Table 2.2. The relationship between the presence of a pre-operative systemic inflammatory response and tumour characteristics of gastro-oesophageal cancer.

	C-reactive protein ≤ 10mg/l (n= 105)	C-reactive protein > 10mg/l (n= 15)	(p-value)
Age (≤65/ 65-74/ ≥75 years)	54/ 39/ 12	6/ 8/ 1	0.721
Sex (m/ f)	72/ 33	8/ 7	0.244
Tumour site (Oesophageal/ gastric)	54/ 51	6/ 9	0.410
Tumour type (adenocarcinoma/ squamous)	88/ 17	12/ 3	0.712
pTNM Stage (I/ II/ III/ IV)	31/ 29/ 41/ 4	1/ 6/ 8/ 0	0.223
Resection margin R0/ R1	88/ 15	11/ 4	0.235
Lymph node status (-/ +)	39/ 64	5/ 10	0.736
Positive to total lymph node ratio (0/ ≤0.2/ >0.2)	39/ 35/ 29	5/ 6/ 4	0.891
Haemoglobin (≥12/ <12 g/l)	86/ 17	9/ 6	0.033
White cell count (<8.5/ 8.5-11.0/ >11.0 10^9/l)	71/ 25/ 7	8/ 5/ 2	0.204
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	90/ 11/ 2	7/ 6/ 2	<0.001
Platelets (<400/ ≥400 10^9/l)	96/ 6	14/ 1	0.905
Albumin (≥35/ <35g/l)	102/ 2	15/ 0	0.590
Survival (months)*	79.2 (53.8-104.6)	19.4 (15.3-23.4)	<0.001

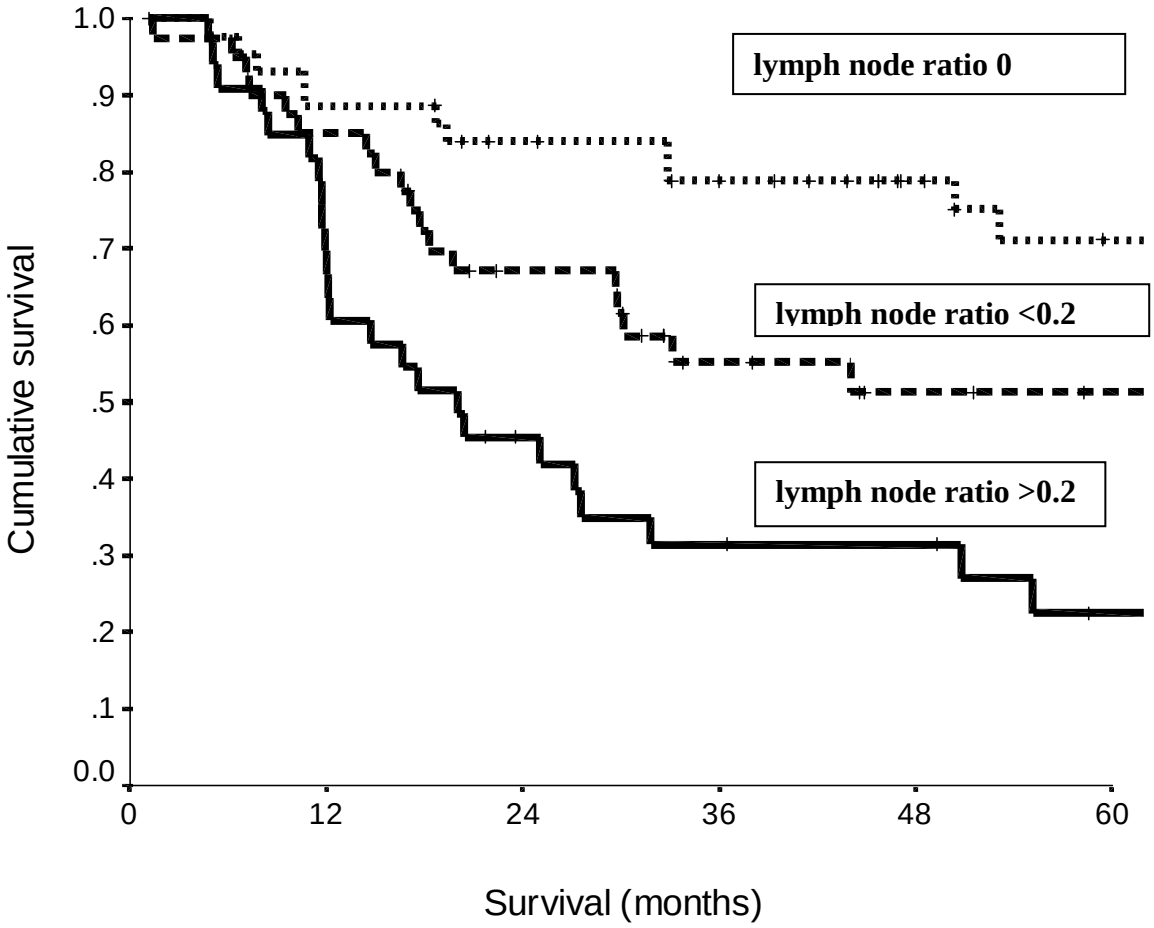


Figure 2.1. The relationship between the positive to total lymph node ratio (0/ ≤0.2/ >0.2 from top to bottom) and cancer specific survival in patients undergoing resection for gastro-oesophageal cancer.

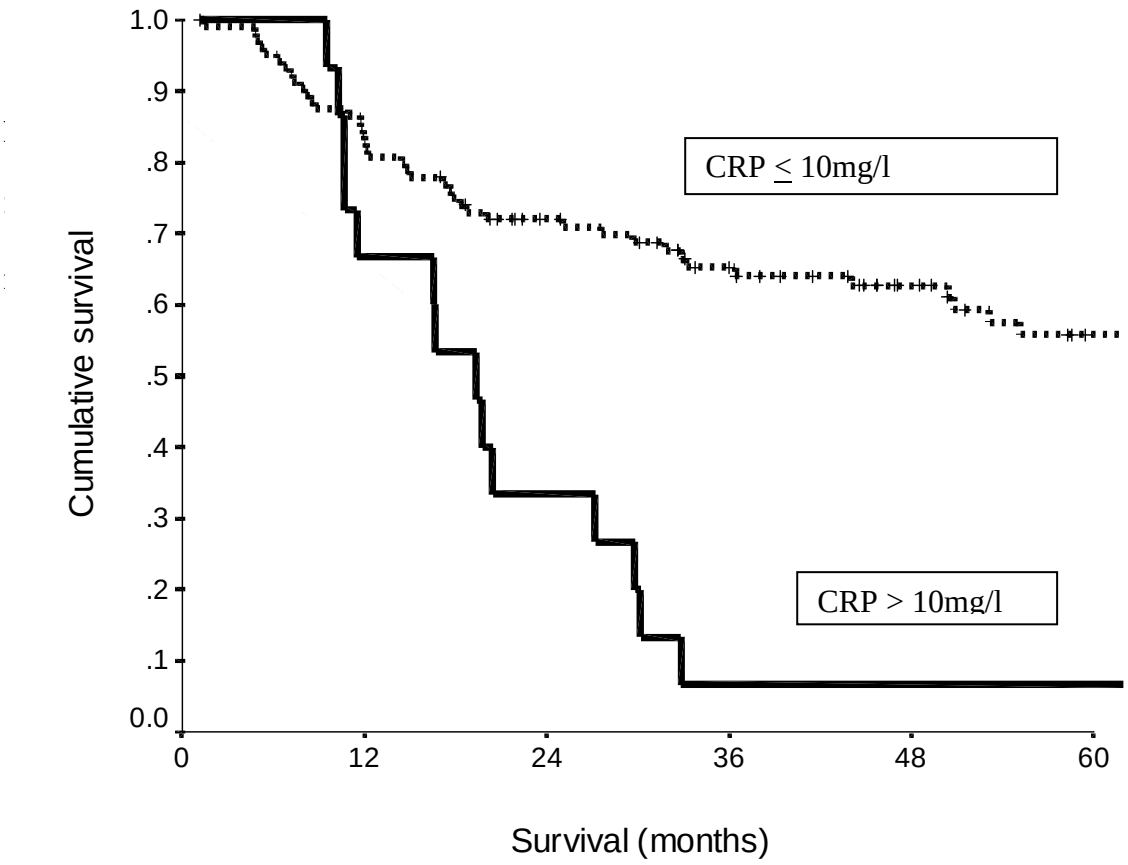


Figure 2.2. The relationship between the systemic inflammatory response (<10/ >10mg/l from top to bottom) and cancer specific survival in patients undergoing resection for gastro-oesophageal cancer.

CHAPTER 3: THE RELATIONSHIP BETWEEN THE SYSTEMIC INFLAMMATORY RESPONSE, TUMOUR PROLIFERATIVE ACTIVITY, LEUCOCYTE AND MACROPHAGE INFILTRATION AND SURVIVAL IN PATIENTS SELECTED FOR POTENTIALLY CURATIVE RESECTION FOR GASTRO-OESOPHAGEAL CANCER.

3.1 Introduction

A number of criteria based on the resected specimen predict long-term survival in patients undergoing potentially curative surgery for gastro-oesophageal cancer. These include pTNM stage, lymph node metastasis (in particular the ratio of involved nodes to the total number of nodes removed and identified), clear resection margins (R0 resection) and tumour differentiation [Siewert et al., 1998;Roder et al., 1994;Shiu et al., 1989;Robey-Cafferty et al., 1991;Khan et al., 2004].

High tumour proliferative activity has also been linked with aggressive malignancy [Rosenwald, 2004] and Ki-67, a nuclear protein associated with cell division, expression has been associated with poorer survival in a number of tumours [Brown and Gatter, 2002]. Few studies have examined the relationship between Ki-67 expression and survival in patients with gastro-oesophageal cancer. Solcia and co-workers [Solcia et al., 2009] reported that, in 294 patients undergoing resection for gastric cancer, increased Ki-67 expression was associated with poorer survival. Also, in a study of patients with squamous and adenocarcinoma of the oesophagus undergoing chemo-radiotherapy, increased expression of Ki-67 was associated with greater tumour response [Ressiot et al., 2008].

It is becoming increasingly clear that tumour associated inflammatory responses, both local and systemic, are important independent factors in tumour progression and metastases [McMillan, 2009;Colotta et al., 2009;Roxburgh and McMillan, 2010]. There is evidence that in patients with gastro-oesophageal cancer, pronounced leucocyte infiltration of the tumour, on haematoxylin and eosin staining of sections, is associated with improved survival [Ma et al., 1994]. Furthermore, the type, density, and location of immune cells in gastro-oesophageal tumours may provide prognostic information, independent of tumour staging [Lee et al., 2008;Hyakudomi et al., 2008;Ohno et al., 2003;Cho et al., 2003;Schumacher et al., 2001]].

Recently, Klintrup and coworkers simplified the subjective assessment of the tumour inflammatory infiltrate by including all white blood cell types and classifying the inflammatory infiltrate as either low or high grade [Klintrup et al., 2005]. They showed that a high-grade inflammatory infiltrate was associated with improved survival in patients undergoing potentially curative resection of colorectal cancer. This approach has been validated in a separate cohort of patients undergoing curative resection for colorectal cancer [Roxburgh et al., 2009b;Roxburgh et al., 2009a]. To date, the prognostic value of this simple scoring system has not been examined in patients undergoing potentially curative resection for gastro-oesophageal cancer.

In terms of systemic inflammation, there is now good evidence that a systemic inflammatory response, as evidenced by elevated circulating concentrations of C-reactive protein and hypoalbuminaemia and combined in a simple objective score (Glasgow prognostic score, mGPS), is independently associated with poor cancer specific survival in patients with operable gastro-oesophageal cancer [Nozoe et al., 2001;Shimada et al., 2003;Ikeda et al., 2003;Gockel et al., 2006;Kobayashi et al., 2008].

The aim of the present study was to examine the relationship between the systemic inflammatory response, tumour proliferative activity, leucocyte and macrophage infiltration and survival in patients undergoing potentially curative resection for gastro-oesophageal cancer.

3.2 **Patients and methods**

3.2.1 Patients

One hundred patients selected for potentially curative resection of gastro-oesophageal cancer (between January 1996 and December 2004) in the upper GI surgical unit at Glasgow Royal Infirmary were studied. The patients studied were the same as in Chapter 2. However, the availability of appropriate blocks to make blank sections for immune-staining limited the number of patients to 100. Patients who died within 30 days of surgery and patients receiving neo-adjuvant chemotherapy were excluded.

For gastric cancers, TNM stage I to III tumours were considered amenable to curative surgical resection. For oesophageal cancers, TNM stage I to III tumours, excluding T4, were considered amenable to curative surgical resection. Tumours of the gastro-oesophageal junction were further classified according to site, using the Siewert system; type 1 and 2 lesions of the gastro-oesophageal junction were regarded as cancers of the oesophagus. Type 3 tumours of the cardia were designated gastric cancers [Siewert et al., 1998].

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

3.2.2 Methods

Sections from a representative tumour block were cut (4µm) and mounted on slides coated with aminopropyltriethoxysilane. Sections were dewaxed and rehydrated for immunohistochemistry of Ki67 (tumour proliferative index) and CD 68+ (tumour associated macrophages).

3.2.2.1 Immunohistochemistry

Appropriate positive controls were included in each run. Negative controls were omission of the primary antibody. Sections were immunostained using the peroxidise based Envision technique (Dako, Cambridgeshire, UK) The primary antibody for Ki-67 was mouse monoclonal antibody (Dako) at a dilution of 1:500. The primary antibody for CD68 was mouse monoclonal antibody (Dako) at a dilution of 1:200

3.2.2.2 Morphometry

Ki-67

The percentages of Ki-67-reactive tumour cells were evaluated with a light microscope at x 400 magnification (Figure 3.1). A 10 x 10 square grid eyepiece graticule was used and the percentage of Ki67 reactive cells counted over ten fields as previously described [Going, 1994]. Only fields containing tumour were counted and any normal tissue on the slide was excluded from the analysis.

CD-68

Quantitive analysis of the tumour associated macrophages (CD68) was performed using a point counting method, with a random sampling technique (Figure 3.2). With this method the volume occupied by any given component (volume density) is expressed as a percentage of the total volume of the tissue. A 100 point ocular grid was used at x 400 magnification and 30 fields were counted per case. Only fields containing tumour were counted and any normal tissue on the slide was excluded from the analysis.

3.2.2.3 Assessment of inflammatory infiltrate

Haematoxylin and eosin slides from the resected specimens were retrieved and scored as described by Klintrup and colleagues [Klintrup et al., 2005]. Briefly, tumours were scored according to a four-point score. Scores were based on the appearances of tumour invasion at the deepest area. A score of 0 indicated that there was no increase in the inflammatory cells at the deepest point of the tumours invasive margin; score 1 denoted a mild and patchy increase in the inflammatory cells; score 2 denoted a prominent inflammatory reaction forming a continuous band at the invasive margin with some evidence of destruction of cancer cell islands and score 3 denoted a florid 'cup-like' inflammatory infiltrate at the invasive edge with frequent destruction of cancer cell islands. These scores were then subsequently classified as low grade (scores 0 and 1) or high grade (scores 2 and 3) figures 3.3 and 3.4 respectively.

All cases were counted by the author (AC) and these were used in the data analysis. For the purpose of assessing inter-observer reproducibility, as second observer (MH, SD and JG) independently scored the slides for Ki67, CD 68+ and Klintrup local

inflammatory infiltrate respectively. The inter-observer intraclass correlation coefficient values were 0.77 for Ki67, 0.71 for CD68+ and 0.77 for Klintrup local inflammatory infiltrate (inter-observer intraclass correlation coefficient values $\geq$0.7 were considered acceptable). The observers were blinded to the clinical outcome of the patients.

The mGPS was calculated as previously described [McMillan, 2008] . Briefly, patients with an elevated C-reactive protein concentration (>10 mg/L) and a decreased albumin concentration (<35 g/L) score 2. Those patients with an elevated C-reactive protein concentration (>10mg/L) score 1 and patients with a C-reactive protein concentration of <10mg/L and any albumin concentration score 0.

3.2.3 Statistics

Data are presented as median (range). Grouping of the variables was carried out using standard thresholds. Interrelationships between variables were assessed using contingency table analysis with the X^2 test for trend as appropriate. Univariate and multivariate survival analysis and calculation of hazard ratios (HR) were performed using a Cox proportional- hazards model. A stepwise backward procedure was used to derive a final model of the variables with a significant independent relationship with survival. To remove a variable from the model, the corresponding *P* value had to be greater than 0.05. Deaths up to the end of August 2009 have been included in the analysis. Analysis was performed using SPSS software (SPSS Inc., Chicago, IL, USA).

3.3 Results

One hundred patients undergoing potentially curative resection for gastro-oesophageal cancer were studied (Table 3.1). The majority of patients were older than 65 years (51%), male (63%), had oesophageal cancer (52%) and had adenocarcinomas (81%). The majority of patients had pathological TNM stage (pTNM) I-II disease (59%), clear resection margins (85%), positive lymph node ratio $\leq$0.2 (71%) and well-moderate differentiated tumours (57%). Thirteen patients had an elevated mGPS (13%), 19 patients had high grade local inflammatory infiltrate according to Klintrup criteria (19%) and the median values for CD68+ and Ki-67 were 5% and 2.7% respectively. Patients with an R1 resection were due to positive circumferential margin involvement (<1mm). No patient had positive longitudinal margin involvement.

The inter-relationship between the clinic-pathological characteristics are shown in Table 3.2. Increased age was associated with a greater proportion of females and gastric cancers (both $p<0.05$). Oesophageal cancer was associated with a greater proportion of squamous carcinomas ($p<0.001$) and positive resection margins ($p<0.05$). Higher pTNM stage was associated with positive resection margins (R1) and an increased lymph node ratio (both $p<0.001$). Positive resection margins (R1) were associated with a greater lymph node ratio ($p<0.01$). An increased lymph node ratio was associated with poor tumour differentiation ($p<0.05$), low grade Klintrup criteria ($p<0.005$) and low tumour proliferative activity ($p<0.05$). An increased white cell count was associated with an increased neutrophil count ($p<0.001$).

During the follow-up period 55 patients died; 51 of their disease. The minimum follow-up was 59 months and the median follow-up of survivors was 100 months. On univariate survival analysis, pTNM stage ($p<0.001$), lymph node ratio ($p<0.001$),

tumour differentiation ($p<0.01$ figure 3.5), mGPS ($p<0.001$), Klintrup score ($p<0.05$ figure 3.6) and Ki-67 ($p<0.01$ Figure 3.7) were significantly associated with cancer specific survival (Table 3.3). On multivariate survival analysis, lymph node ratio (HR 1.63, 95% CI 1.11-2.40, $p<0.05$), tumour differentiation (HR 2.63, 95% CI 1.45-4.77, $p=0.001$), mGPS (HR 3.91, 95% CI 1.96-8.11, $p<0.001$), Klintrup score (HR 3.47, 95% CI 1.14-10.55, $p<0.05$) and Ki-67 (HR 0.67, 95% CI 0.47-0.96, $p<0.05$) remained independently associated with cancer specific survival.

3.4 Discussion

The present study, to our knowledge, shows for the first time the interrelationships between tumour proliferative activity, local peritumoral inflammatory response (Klintrup criteria), the systemic inflammatory response (GPS criteria) and cancer-specific survival, in patients undergoing potentially curative resection for gastro-oesophageal cancer. These results indicate that, low tumour proliferative activity, a local low grade inflammatory infiltrate and an elevated systemic inflammatory response are all associated with, independent of tumour staging, poorer cancer specific survival.

Although the results of the present study show that Ki-67 labelling index was independently associated with cancer specific survival in patients with gastro-oesophageal cancer, paradoxically an elevated Ki-67 labelling index was associated with better cancer specific survival in these patients. Furthermore, low tumour cell proliferation was associated with a greater ratio of positive to resected nodes. These results appear contrary to the results of Solcia and colleagues [Solcia et al., 2009] who reported that, in 294 patients undergoing resection for gastric cancer, increased Ki-67 expression was associated with poorer survival. However, in a study of patients with

squamous and adenocarcinoma of the oesophagus undergoing chemo-radiotherapy, increased expression of Ki-67 was associated with greater tumour response [Ressiot et al., 2008].

It is of particular interest that the present paradoxical relationship between the Ki67 proliferation index and cancer specific survival has recently been reported by Lee and colleagues in 245 patients with gastric cancer [Lee et al., 2010]. Moreover, a low Ki67 proliferation index was also significantly associated with the presence of lymph node metastases. Similarly, Lee and colleagues suggested that a high proliferation rate may be associated with a better response to chemotherapy.

Irrespectively, to further examine the basis of the relationship between elevated Ki-67 labelling index and better cancer specific survival in gastro-oesophageal, cancer it will be important to carry out further observations and detailed survival analysis in gastric and oesophageal cancers, adeno and squamous carcinomas and in node positive and node negative disease. The relatively small numbers of observations in the present study precludes such detailed analysis.

In the present study it was of interest that a local low grade inflammatory infiltrate was associated with, independent of tumour staging, poorer cancer specific survival in patients with gastro-oesophageal cancer. Also, low grade Klintrup criteria, was also associated with a greater nodal burden. These results are consistent with those previously observed in relatively large studies of patients undergoing potentially curative resection for colorectal cancer (Klintrup et al., 2005; Roxburgh et al., 2009a; Roxburgh et al., 2009c). Therefore, it was of interest that Klintrup criteria and Ki-67 labelling index were not associated. This might suggest that the local immune response is not stimulated directly by increased tumour proliferation and may be a more passive response to production of local, pro-inflammatory cytokines. Alternatively, as

suggested above, that there may be unknown confounding factors associated with the present analysis of Ki-67 labelling index in gastro-oesophageal cancer.

Nevertheless, the results of the present study would suggest that a high-grade local immune response represents an effective host cellular immune response preventing further tumour dissemination and progression. Furthermore, the results of the present study are consistent with the concept that the density and location of a variety of immune cells, and not an individual immune cell type, are important independent determinants of cancer-specific survival in patients with gastro-oesophageal cancer. In this context it was of interest to note that a specific subset of the local inflammatory response (tumour associated macrophages, CD 68+ cells) were not associated with cancer specific survival, in the present study. This would suggest that other immune cell-types are important in determining tumour progression and cancer specific survival in patients with gastro-oesophageal cancer.

The systemic inflammatory response is now an established indicator of poor prognosis in a variety of human cancers [McMillan, 2008;McMillan, 2009]. However, it remains to be determined which components of the systemic inflammatory response play pivotal roles. Of these, the value of C-reactive protein is most recognized as being associated with cancer cachexia [Morley et al., 2006;Fearon et al., 2006], compromised cell-mediated immunity [Du Clos and Mold, 2004] and upregulation of growth factors and angiogenesis [Krzystek-Korpacka et al., 2008]. Nevertheless, the mechanisms underlying the relationship between local and systemic inflammatory responses and cancer-specific survival are likely to be complex. These include extrinsic pathways such as nutritional and functional decline, immune dysfunction and tumour angiogenesis, growth, and dissemination. Recently, it has been proposed that there are also intrinsic pathways involved in cancer-related inflammation, such as the induction

of genetic instability by inflammatory mediators, leading to the accumulation of genetic alterations in cancer cells and progressive tumour growth and dissemination. Indeed, a recent review proposes that cancer-related inflammation is the seventh 'hallmark' of cancer [Colotta et al., 2009].

With reference to tumour proliferation, Klintrup scoring and the mGPS, such routinely available measures offer a new approach to staging the biologic phenotype of the tumour and, together with TNM tumour staging, offer a more sophisticated and accurate approach to outcome prediction in patients with primary operable gastro-oesophageal cancers.

In summary, the results of the present study show that tumour proliferation rate and local and systemic inflammatory responses are important independent predictors of cancer specific survival in patients undergoing potentially curative surgery for gastro-oesophageal cancer. These scores may be combined with tumour based factors to improve prediction of outcome in these patients.

Table 3.1. Clinico-pathological characteristics in patients selected for potentially curative resection for gastro-oesophageal cancer.

	Patients (n= 100)
Age (≤65/ 65-74/ ≥75 years)	49/ 41/ 10
Sex (m/ f)	63/ 37
Tumour site (oesophageal/ gastric)	52/ 48
Tumour type (adenocarcinoma/ squamous)	81/ 19
pTNM Stage (I/ II/ III/ IV)	28/ 31/ 38/ 3
Resection margin (R0/ R1)	85/ 15
Positive to total lymph node ratio (0/ ≤0.2/ >0.2)	41/ 30/ 29
Tumour differentiation (Well-moderate/ poor)	57/ 43
mGPS (0/ 1)	87/ 13
Klintrup score (High / low grade)	19/ 81
CD68 Tertiles 1*	1.5 (0.2- 2.3)
2*	5.0 (2.4- 6.4)
3*	9.5 (6.5- 21.3)
Ki67 Tertiles 1*	0.3 (0- 1.4)
2*	2.7 (1.5- 4.5)
3*	10.9 (4.7- 48.1)
Alive	45
Cancer related death	51
Non-cancer related death	4

* median (range)

Table 3.2. Interrelationships between pathological and biochemical criteria in patients selected for potentially curative resection for gastro-oesophageal cancer

	Sex	Tumour site	Tumour type	PTNM Stage	Resect margin	LNR	Differen Tiation	mGPS	White cell count	Neutro Count	Lymph count	Klintrup Criteria	CD68 (tertiles 1, 2, 3)	Ki67 (tertiles 1,2,3)
Age in years (≤65/ 65-74/ ≥75 years)	0.045	0.043	0.321	0.364	0.950	0.902	0.880	0.632	0.444	0.099	0.066	0.821	0.666	0.088
Sex (m/ f)		0.921	0.119	0.228	0.403	0.392	0.200	0.180	0.106	0.126	0.402	0.987	0.131	0.229
Tumour site (Oesophageal/ gastric)			<0.001	0.942	0.019	0.366	0.813	0.297	0.854	0.159	1.00	0.113	0.813	0.224
Tumour type (adenocarcinoma/ squamous)				0.375	0.915	0.255	0.702	0.689	0.766	0.615	0.294	0.369	0.655	0.846
pTNM Stage (I/ II/ III/ IV)					<0.001	<0.001	0.123	0.320	0.106	0.270	0.640	0.078	0.922	0.145
Resection margin (R0/ R1)						0.009	0.772	0.967	0.798	0.429	1.00	0.189	0.916	0.918
Positive to total LNR (0/ ≤0.2/ >0.2)							0.032	0.875	0.538	0.378	0.622	0.003	0.737	0.042
Tumour differentiation Well-moderate/ poor								0.419	0.298	0.691	1.00	0.371	0.580	0.544
mGPS (0/ 1/ 2)									0.497	0.947	0.231	0.689	0.393	0.121
White cell count (<8.5/ 8.5-11/ >11 10^9/l)										<0.001	0.192	0.382	0.928	0.799
Neutrophil count (<7.5/ >7.5 10^9/l)											1.00	0.609	0.346	0.733
Lymphocyte count (<1/ 1-3/ >3 10^9/l)												0.304	0.995	0.318
Klintrup score (High / low grade)													0.148	0.258
CD68 (tertiles 1, 2, 3)														0.650

Table 3.3. The relationship between clinico-pathological factors and survival, in patients selected for potentially curative resection for gastro-oesophageal cancer

	Patients n= 100	Univariate analysis HR (95% CI)	P value
Age (≤65/ 65-74/ ≥75yrs)	49/ 41/ 10	1.09 (0.70-1.60)	0.789
Sex (m/ f)	63/ 37	1.17 (0.66- 2.07)	0.589
Tumour site (Oesophageal/ gastric)	52/ 48	1.33 (0.77-2.31)	0.307
Tumour type (adenocarcinoma/ squamous)	81/ 19	1.27 (0.69-2.47)	0.490
pTNM Stage (I/ II/ III/ IV)	28/ 31/ 38/ 3	1.80 (1.27-2.55)	0.001
Resection margin (R0/ R1)	85/ 15	1.23 (0.60-2.52)	0.581
Positive to total lymph node ratio (0/ ≤0.2/ >0.2)	41/ 30/ 29	2.06 (1.45-2.91)	<0.001
Tumour differentiation (Well-moderate/ poor)	57/ 43	2.40 (1.35-4.18)	0.003
mGPS (0/ 1)	87/ 13	3.41 (1.74-6.64)	<0.001
Klintrup score (High / low grade)	19/ 81	3.74 (1.34-10.41)	0.012
CD68 (tertiles 1, 2, 3)	30/ 32/ 32	0.84 (0.59-1.21)	0.351
Ki67 (tertiles 1, 2, 3)	32/ 32/ 34	0.57 (0.40- 0.81)	0.002

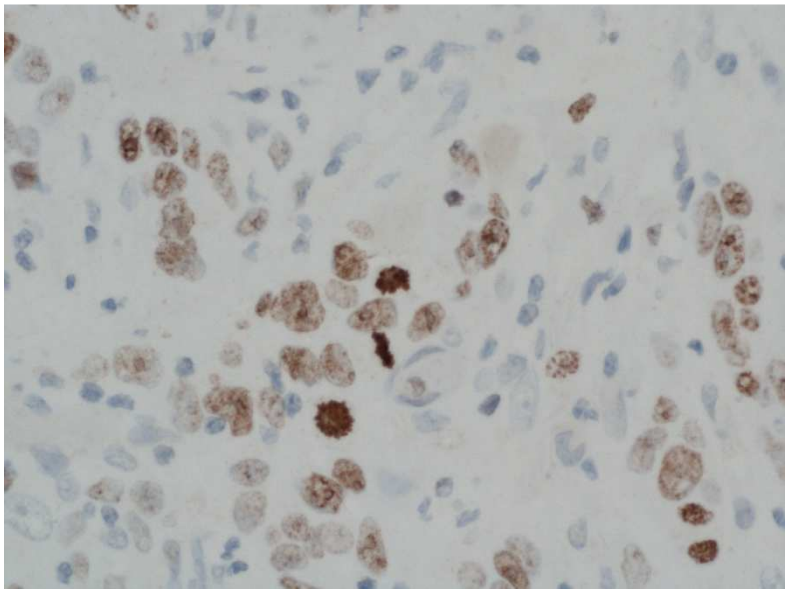


Figure 3.1. Ki67 immunohistochemical staining (high power)

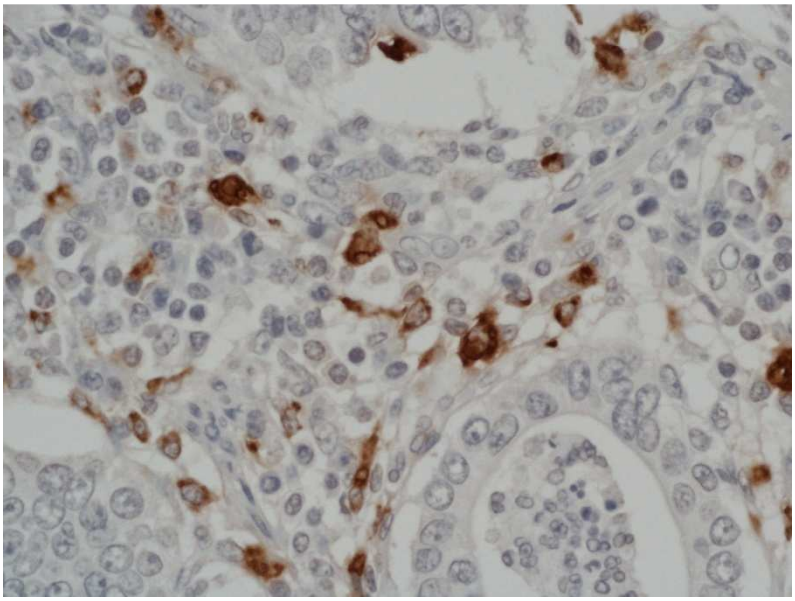


Figure 3.2. CD 68+ immunohistochemical staining (high power)

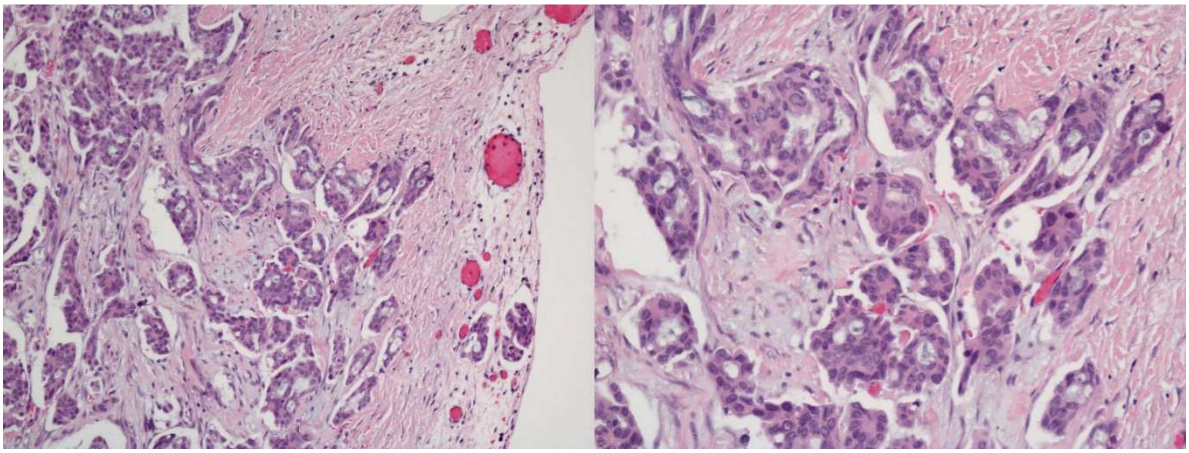


Figure 3.3. Example of "low grade" local tumor inflammatory infiltrate (low power and high power view).

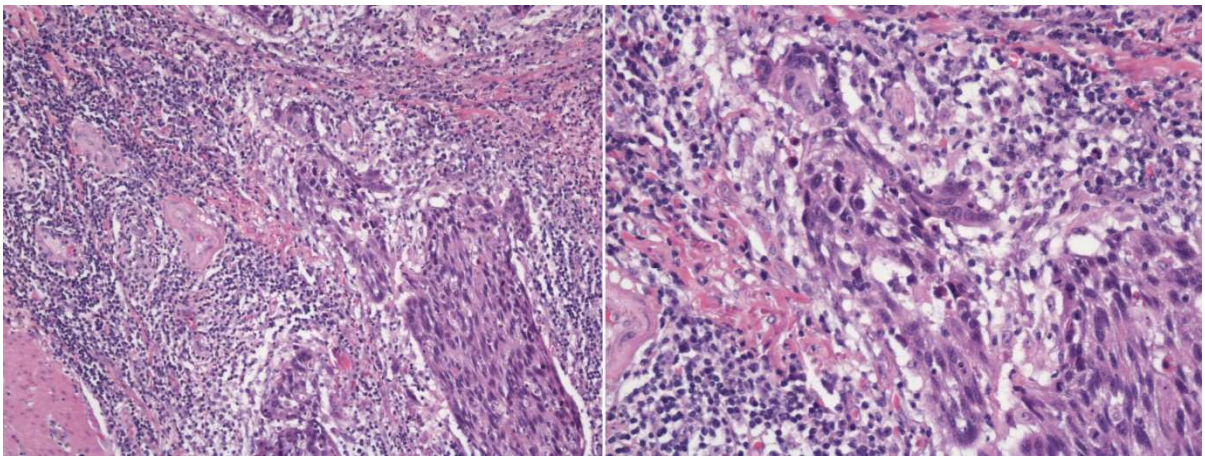


Figure 3.4. Example of "high grade" local tumor inflammatory infiltrate (low power and high power view).

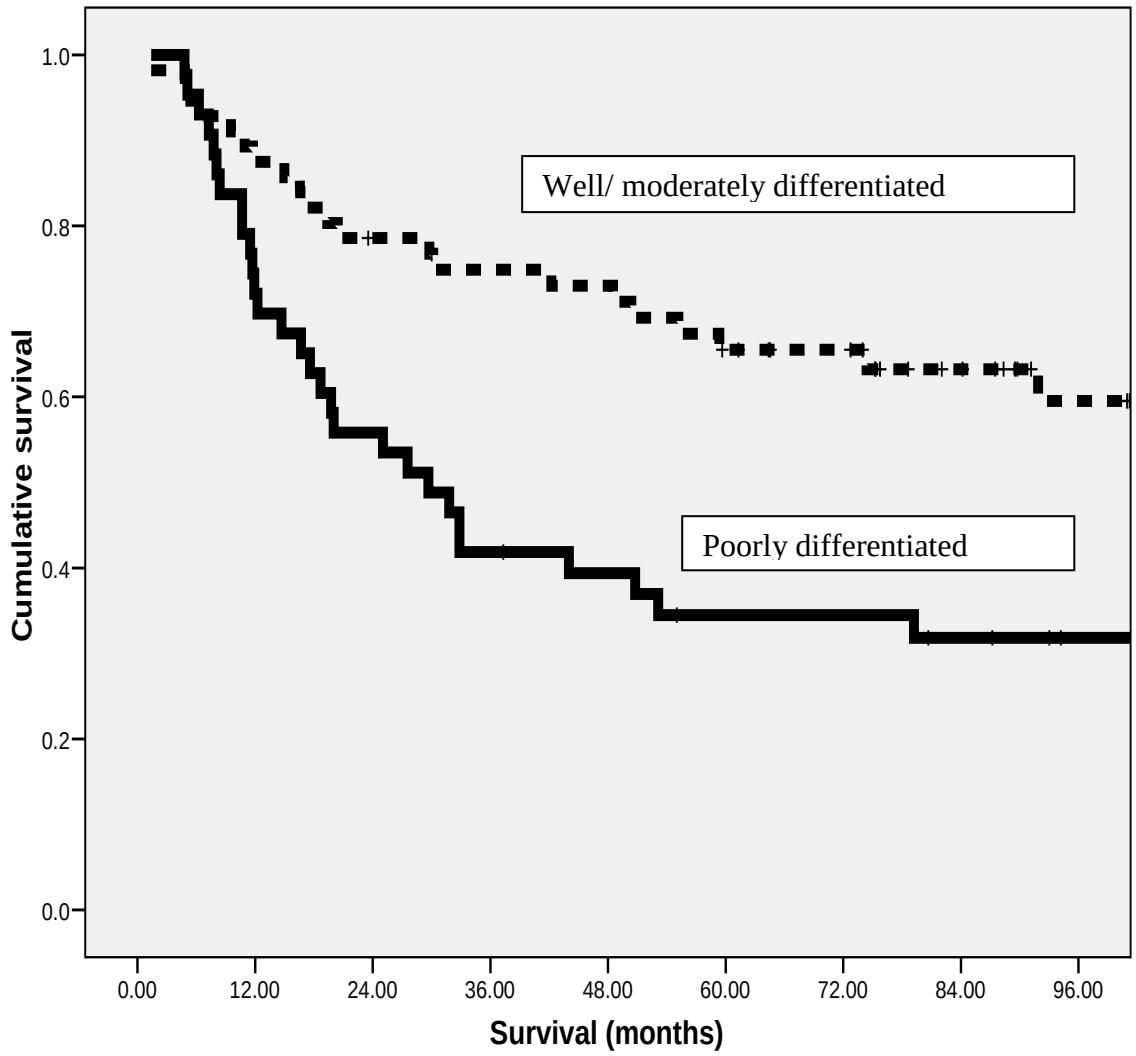


Figure 3.5. The relationship between tumour differentiation (well-moderate/ poor, from top to bottom) and cancer specific survival in patients undergoing resection for gastro-oesophageal cancer.

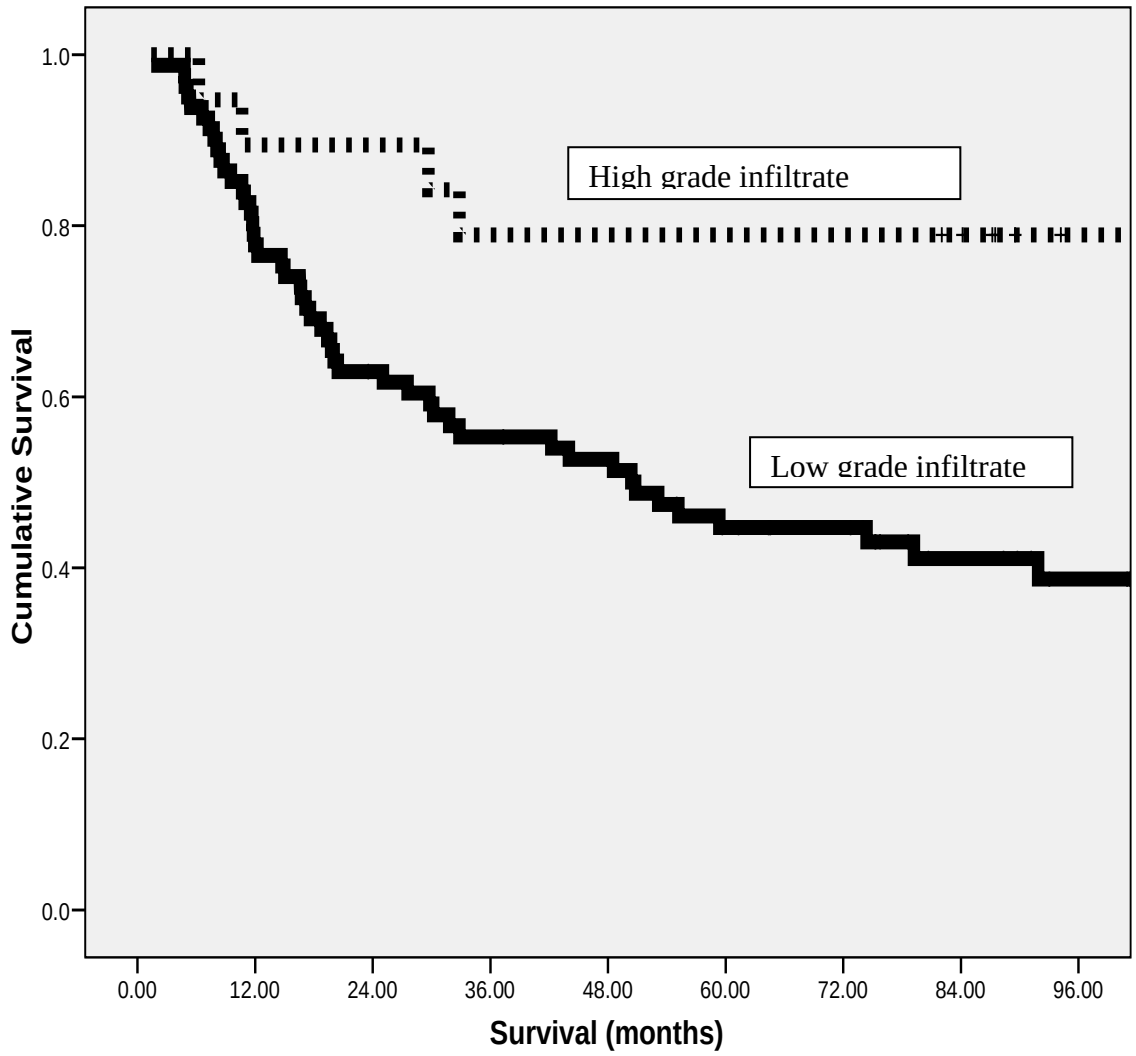


Figure 3.6. The relationship between tumour inflammatory infiltrate (high grade/ low grade, from top to bottom) and cancer specific survival in patients undergoing resection for gastro-oesophageal cancer.

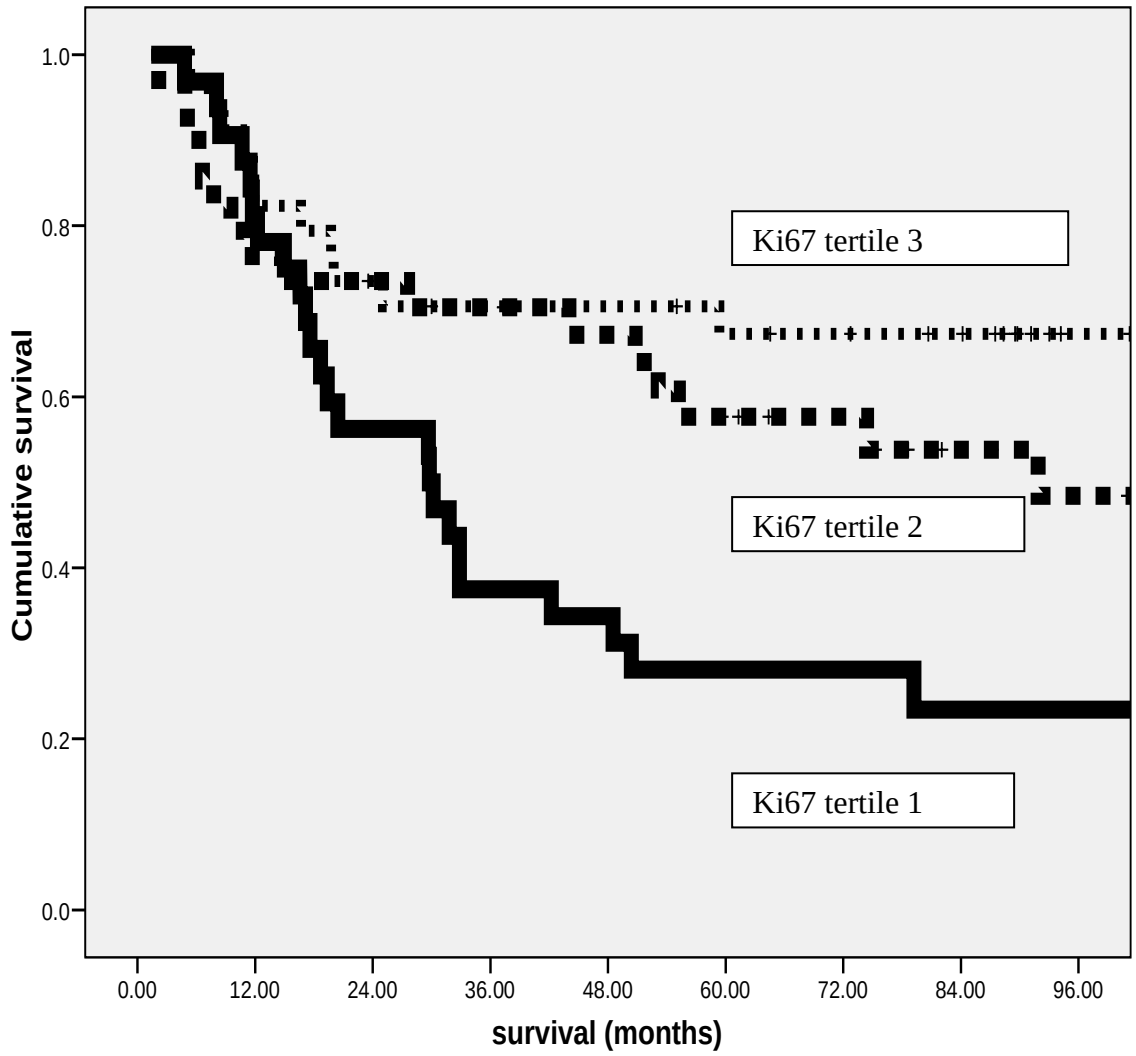


Figure 3.7. The relationship between tumour proliferation (Ki67 tertiles 1/ 2/ 3 from bottom to top) and survival in patients selected for potentially curative resection for gastro-oesophageal cancer.

CHAPTER 4: EVALUATION OF AN INFLAMMATION-BASED PROGNOSTIC SCORE (GPS) IN PATIENTS WITH INOPERABLE GASTRO-OESOPHAGEAL CANCER.

4.1 Introduction

Overall survival in patients with gastro-oesophageal cancer is poor, with the majority of patients presenting with advanced, inoperable disease and less than 15% surviving 5 years [Cancer Research UK Information Resource Centre, 2004]. Despite an often short median and poor overall survival, there is marked heterogeneity in the duration of survival amongst patients. Therefore, there is continuing interest in prognostic factors to permit more accurate patient stratification and which will improve clinical decision making, and possibly contribute to more rational study design and analysis [Allgayer et al., 1997]. A small proportion of patients with inoperable, but localized oesophageal cancers may be suitable for potentially curative non-surgical treatment with (chemo) radiation therapy however most frequently these modalities are used in palliation. Whilst such palliative treatment may confer a small survival advantage over best supportive care it is primarily directed towards symptom relief [Pyrhonen et al., 1995]. This however may sometimes be at the expense of toxicity [Ross et al., 2002] and therefore the appropriate selection of patients, most likely to benefit is of considerable importance. Previous studies have indicated that weight loss or performance status may be associated with treatment outcome and survival in inoperable oesophago-gastric cancer [Chau et al., 2004]. However, the use of weight loss as a prognostic factor remains problematical since it is often not well defined and

subject to bias [Morgan et al., 1980;Rowland, 1990]. Furthermore performance status is recognised to be subjective [Ando M, 2001].

There is increasing evidence that the presence of a systemic inflammatory response, as evidenced by elevated concentrations of C-reactive protein, is a prognostic factor independent of stage, performance status and weight loss in patients with advanced cancer [Mahmoud and Rivera, 2002;O'Gorman et al., 2000;Scott et al., 2002]. Recently, we have shown that an elevated C-reactive protein and hypoalbuminaemia (using standardised assays and accepted thresholds for C-reactive protein and albumin concentrations), may be combined to form a score, the Glasgow Prognostic score (GPS), which has prognostic value, independent of stage and performance status, in patients with inoperable non-small cell lung cancer [Forrest et al., 2004;Forrest et al., 2003].

The aim of the present study was to assess the relationship between the GPS and survival in patients with inoperable gastro-oesophageal cancer.

4.2 Patients and methods

4.2.1 Patients

Patients diagnosed with inoperable gastro-oesophageal carcinoma, attending the upper GI surgical unit in the Royal Infirmary, Glasgow between the 1st January 2000 and the 31st December 2004 and who had a pre-treatment measurement of C-reactive protein and albumin were studied. Patients were staged using a combination of endoscopy, CT scan of chest and abdomen, laparoscopy and endoscopic ultrasound, in

addition to clinical assessment. The specific use of these modalities was dependent upon the clinical tumour features and where appropriate, assessment of fitness, cardiac and lung function testing was also performed.

The extent of tumour spread was recorded using the TNM stage. Tumours around the gastro-oesophageal junction were further classified according to site, using the Siewert system [Siewert and Stein, 1998]; type 1 and 2 lesions of the gastro-oesophageal junction were designated as cancers of the oesophagus. Type 3 tumours of the cardia were designated gastric cancers.

Patients identified as being suitable for resection or radical, non surgical treatment given with curative intent were excluded from this analysis, as were patients who had any form of chronic inflammatory disease (e.g. vasculitis, connective tissue disorders, rheumatological conditions) and those with cancers arising in other organs. Therefore, the study group comprised patients unsuitable for either surgical resection or radical, non-surgical treatment.

Patients who underwent palliative chemotherapy, palliative radiotherapy or endoscopic laser were considered to have had “active” treatment. Patients receiving palliative care (symptom control) were considered to have had “supportive” treatment. The “active” treatment group was further subdivided into: chemotherapy based (chemotherapy +/- radiotherapy +/- endoscopic treatment), radiotherapy based (radiotherapy +/- endoscopic treatment) and endoscopic laser (laser +/- stent).

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

4.2.2 Methods

Routine laboratory measurements of C-reactive protein and albumin at the time of diagnosis were carried out. The limit of detection of the C-reactive protein assay was <6mg/l. The coefficients of variation of these methods, over the range of measurements, was less than 5% as established by routine quality control.

The GPS was constructed as previously described [Forrest et al., 2004;Forrest et al., 2003]. Briefly, patients with both an elevated C-reactive protein (>10 mg/l) and hypoalbuminaemia (<35g/l) were allocated a score of 2. Patients in whom only one of these biochemical abnormalities was present were allocated a score of 1. Patients in whom neither of these abnormalities was present were allocated a score of 0.

4.2.3 Statistics

Data are presented as median and 95% CI. Grouping of the variables was carried out using standard thresholds. Univariate survival analysis was performed using the Kaplan–Meier method with the logrank test. Multivariate survival analysis and calculation of hazard ratios (HR) were performed using a Cox regression model including all covariates that were significant on univariate analysis. Deaths up to 30th June 2005 were included in the analysis. Analysis was performed using SPSS software (SPSS Inc., Chicago, IL, USA).

4.3 Results

The characteristics and survival analysis of patients with inoperable gastro-oesophageal cancer (n= 258) are shown in Table 4.1 The majority were male, over the age of 65 years, had stage IV disease and had tumours of the oesophagus. Patients with stage I and II disease were not considered suitable for surgery or radical chemo-radiation due to co-morbidity. The majority of patients had an abnormal GPS. Of the 52 patients with hypoalbuminaemia, 45 (86%) had an elevated C-reactive protein concentration. One hundred and ninety five patients (76%) received active treatment and the remainder received supportive care only.

The minimum follow-up was 6 months or until date of death; the median follow-up of the survivors was 12 months. During this period 211 (82%) patients died, 202 patients of their cancer and 9 of intercurrent disease. On univariate analysis, tumour site ($p<0.05$), stage ($p<0.001$), alkaline phosphatase ($p<0.05$), the GPS ($p<0.001$, Figure 4.1) and treatment ($p<0.001$) and were significant predictors of cancer specific survival. On multivariate analysis, age ($p<0.05$), stage ($p<0.001$), the GPS ($p<0.001$) and treatment ($p<0.001$) were significant independent predictors of cancer specific survival (Table 4.2).

The characteristics and survival analysis of those patients receiving active treatment (n= 195) are shown in Table 4.3. On multivariate analysis, stage ($p<0.001$), the GPS ($p<0.001$, Figure 4.2) and treatment ($p<0.01$) were significant independent predictors of cancer specific survival.

The characteristics and survival analysis of those patients receiving supportive treatment (n= 63) are shown in Table 4.4. On multivariate analysis, only stage ($p<0.05$) was a significant independent predictor of cancer specific survival.

The relationship between stage, the GPS and the 12 month survival rate in those patients receiving active treatment is shown in Table 4.5. Twelve month cancer specific survival in patients with stage I/ II disease receiving active treatment was 67% and 60% for a GPS of 0 and 1 respectively. For stage III/ IV disease, 12 months cancer specific survival was 57%, 25% and 12% for a GPS of 0, 1 and 2 respectively.

4.4 Discussion

In the present study the presence of a systemic inflammatory response, reflected in the GPS predicts cancer specific survival, independent of tumour stage, in patients with inoperable gastro-oesophageal cancer. Moreover, we have shown how the GPS might be used in combination with stage to improve the prediction of survival. It may be this simply-derived inflammation-based score will be a useful tool in the prediction of survival and possible stratification, at diagnosis, of patients with inoperable gastro-oesophageal cancer.

It was of interest that, in the present study, only 7 (14%) patients had hypoalbuminaemia in the absence of an elevated C-reactive protein concentration. This is consistent with the concept that the development of hypoalbuminaemia is often secondary to an on-going systemic inflammatory response [Al Shaiba et al., 2004;McMillan et al., 2001b]. GPS may thus reflect both the presence of an ongoing

systemic inflammatory response (C-reactive protein) and the progressive nutritional decline (albumin) of the patient with advanced cancer.

The mechanism by which a systemic inflammatory response might influence cancer survival in these patients is not clear. However, it may be that the presence of a systemic inflammatory response and the associated nutritional decline [McMillan et al., 1998;Scott et al., 2002] influences tolerance and compliance with active treatment [Forrest et al., 2004;Bromwich et al., 2004]. Indeed, Andreyev and coworkers (1998) reported that the poorer outcome of chemotherapy in advanced gastrointestinal cancer patients with weight loss appeared to be as a result of receiving less chemotherapy, due to toxicity, rather than poorer tumour response [Andreyev et al., 1998].

When the relationship between the GPS and 12 month survival rate was examined in patients with stage III/ IV disease receiving active treatment there was approximately a 5 fold decrease in the survival rate between those patients with a GPS of 0 (57%) and those with a GPS of 2 (12%). This suggests, that there is a sub-group of patients who derive little survival benefit from active treatment. The division of patients into "active" and "supportive" groups was to enable the differentiation of patients who (using conventional assessment tools) were felt to have poor life expectancy and were therefore treated symptomatically and conservatively (supportive group) to those patients who were felt to have greater life expectancy and were therefore treated more aggressively (active group). When the active and supportive groups were included together the GPS was a significant independent predictor of survival. Figure 4.1, Table 4.2."

However, it is important to remember that treatment in these patients is given with palliative intent and survival data do not reflect endpoints of palliation. This

aspect is being explored further in ongoing work, however the identification of a patient sub-group with limited prognosis, through the use of a simple reliable prognostic score, may aid the treatment decision-making process. In particular it would seem inappropriate to subject such patients to potentially toxic treatments if simpler palliative options exist.

In summary, the prognosis for patients diagnosed with inoperable gastro-oesophageal cancer, even with active treatment, remains poor. The presence of a systemic inflammatory response (an elevated GPS) appears to be a useful indicator of outcome amongst these patients, independent of stage. Moreover, the GPS has the advantage of being simple to measure, routinely available and well standardised.

Table 4.1 Clinical characteristics and cancer specific survival in patients with inoperable gastro-oesophageal cancer: Univariate survival analysis

		Patients	Survival (months)	P value
		258 (100%)	Median (95% CI)	
Age	<65 yrs	91 (35)	8.0 (7.0-9.0)	
	65-74yrs	64 (25)	6.6 (2.5-10.8)	
	>75 yrs	103 (40)	7.4 (4.8-10.1)	0.664
Sex	Male	166 (64)	7.4 (5.7-9.1)	
	Female	92 (36)	8.0 (6.2-9.9)	0.728
Tumour type	Adenocarcinoma	187 (73)	8.2 (6.2-9.6)	
	Squamous	71 (27)	6.6 (4.9-8.3)	0.979
Tumour site	Oesophagus	142 (55)	8.9 (6.8-11.1)	
	Gastric	116 (45)	6.6 (4.0-9.3)	0.042
TNM Stage	I	29 (11)	20.5 (13.3-27.7)	
	II	27 (11)	11.8 (8.3-15.3)	
	III	64 (25)	9.8 (8.1-11.5)	
	IV	138 (53)	4.5 (2.4-6.5)	<0.001
Alkaline phosphatase (U/l)				
Tertile 1 (n=85)		145 (19-176)*	8.4 (6.7-10.2)	
Tertile 2 (n=85)		199 (176-233)	8.9 (6.8-11.1)	
Tertile 3 (n=84)		325 (235-2396)	5.0 (2.1-7.9)	0.050
GPS	0	92 (36)	13.6 (9.2-18.1)	
	1	121 (47)	6.3 (4.2-8.5)	
	2	45 (17)	2.4 (0.5-4.4)	<0.001
Treatment	Active	195 (76)	10.1 (8.6-11.6)	
	Supportive	63 (24)	2.1 (1.3-2.8)	<0.001

*Median (range)

Table 4.2 Clinical characteristics and cancer specific survival in patients with inoperable gastro-oesophageal cancer: Multivariate survival analysis

	Patients (n= 258)	Hazard ratio (95%CI)	*P* value
Age (<65/ 65-74/ >75 yrs)	91/ 64/ 103	1.22 (1.02-1.46)	0.032
Sex (male/ female)	166/ 92	1.07 (0.80-1.45)	0.642
Tumour type (adenocarcinoma/ squamous)	187/ 71	1.28 (0.87-1.89)	0.210
Tumour site (oesophagus/ gastric)	142/ 116	1.36 (0.96-1.92)	0.087
TNM Stage (I/ II/ III/ IV)	29/ 27/ 64/ 138	1.55 (1.30-1.83)	<0.001
GPS (0/ 1/ 2)	92/ 121/ 45	1.51 (1.22-1.86)	<0.001
Alkaline phosphatase (U/l) (Tertiles 1/ 2/ 3)	85/ 85/ 84	1.10 (0.92-1.32)	0.300
Treatment (active/ supportive)	195/ 63	2.53 (1.80-3.56)	<0.001

Table 4.3 Clinical characteristics and cancer specific survival in patients with inoperable gastro-oesophageal cancer receiving active treatment: Multivariate survival analysis

	Patients (n= 195)	Hazard ratio (95%CI)	*P* value
Age (<65/ 65-74/ >75 yrs)	74/ 49/ 72	1.13 (0.88-1.45)	0.354
Sex (male/ female)	129/ 66	1.14 (0.80-1.65)	0.465
Tumour type (adenocarcinoma/ squamous)	142/ 53	1.39 (0.89-2.17)	0.154
Tumour site (oesophagus/ gastric)	114/ 81	1.27 (0.85-1.89)	0.249
TNM Stage (I/ II/ III/ IV)	27/ 20/ 51/ 97	1.66 (1.36-2.03)	<0.001
GPS (0/ 1/ 2)	78/ 89/ 28	1.75 (1.35-2.26)	<0.001
Alkaline phosphatase (U/l) (Tertiles 1/ 2/ 3)	67/ 64/ 60	0.97 (0.78-1.21)	0.788
Treatment (Chemotherapy/ Radiotherapy / Endoscopic)	102/ 33/ 60	1.48 (1.15-1.90)	0.003

Table 4.4 Clinical characteristics and cancer specific survival in patients with inoperable gastro-oesophageal cancer receiving supportive treatment: Multivariate survival analysis

	Patients (n= 63)	Hazard ratio (95%CI)	*P* value
Age (<65/ 65-74/ >75 yrs)	17/ 15/ 31	0.87 (0.61-1.25)	0.449
Sex (male/ female)	37/ 26	1.17 (0.67-2.05)	0.579
Tumour type (adenocarcinoma/ squamous)	45/ 18	0.89 (0.39-2.04)	0.785
Tumour site (oesophagus/ gastric)	28/ 35	0.77 (0.36-1.63)	0.492
TNM Stage (I/ II/ III/ IV)	2/ 7/ 13/ 41	1.68 (1.08-2.64)	0.023
GPS (0/ 1/ 2)	14/ 32/ 17	1.04 (0.72-1.51)	0.824
Alkaline phosphatase (U/l) (Tertiles 1/ 2/ 3)	18/ 21/ 24	1.36 (0.94-1.98)	0.105

Table 4.5 The relationship between stage, the GPS and the 12 month cancer specific survival rate in patients with inoperable gastro-oesophageal cancer receiving active treatment (n= 195).

	Stage I + II	Stage III + IV	Stage I-IV
GPS 0	67% (n=31)	57% (n=47)	61 % (n=78)
GPS 1	60% (n=10)	25% (n=79)	29% (n=89)
GPS 2	0% (n=6)	12 % (n=22)	16% (n=28)
GPS 0-2	62% (n=47)	33% (n=148)	40% (n=195)

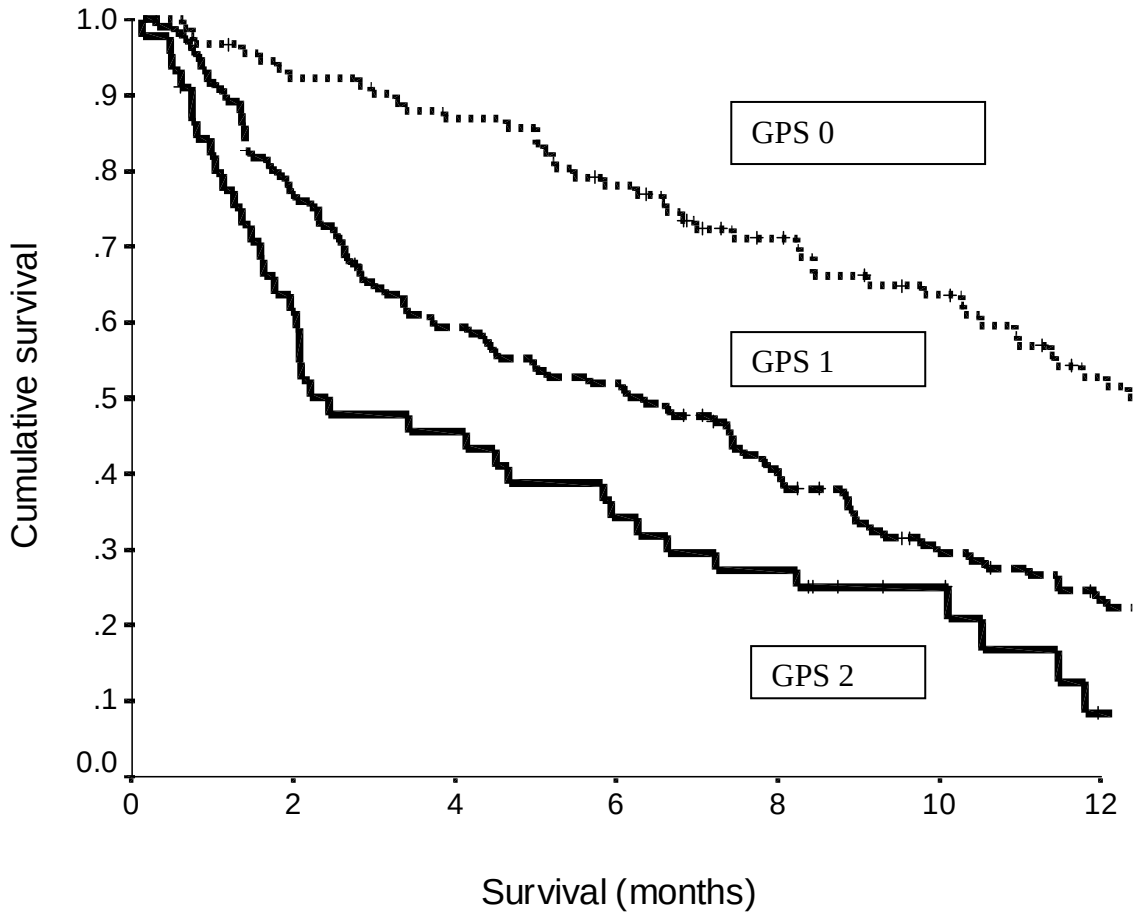


Figure 4.1 The relationship between an inflammation based prognostic score (GPS, 0, 1, 2 from top to bottom) and survival in patients with inoperable gastro-oesophageal cancer.

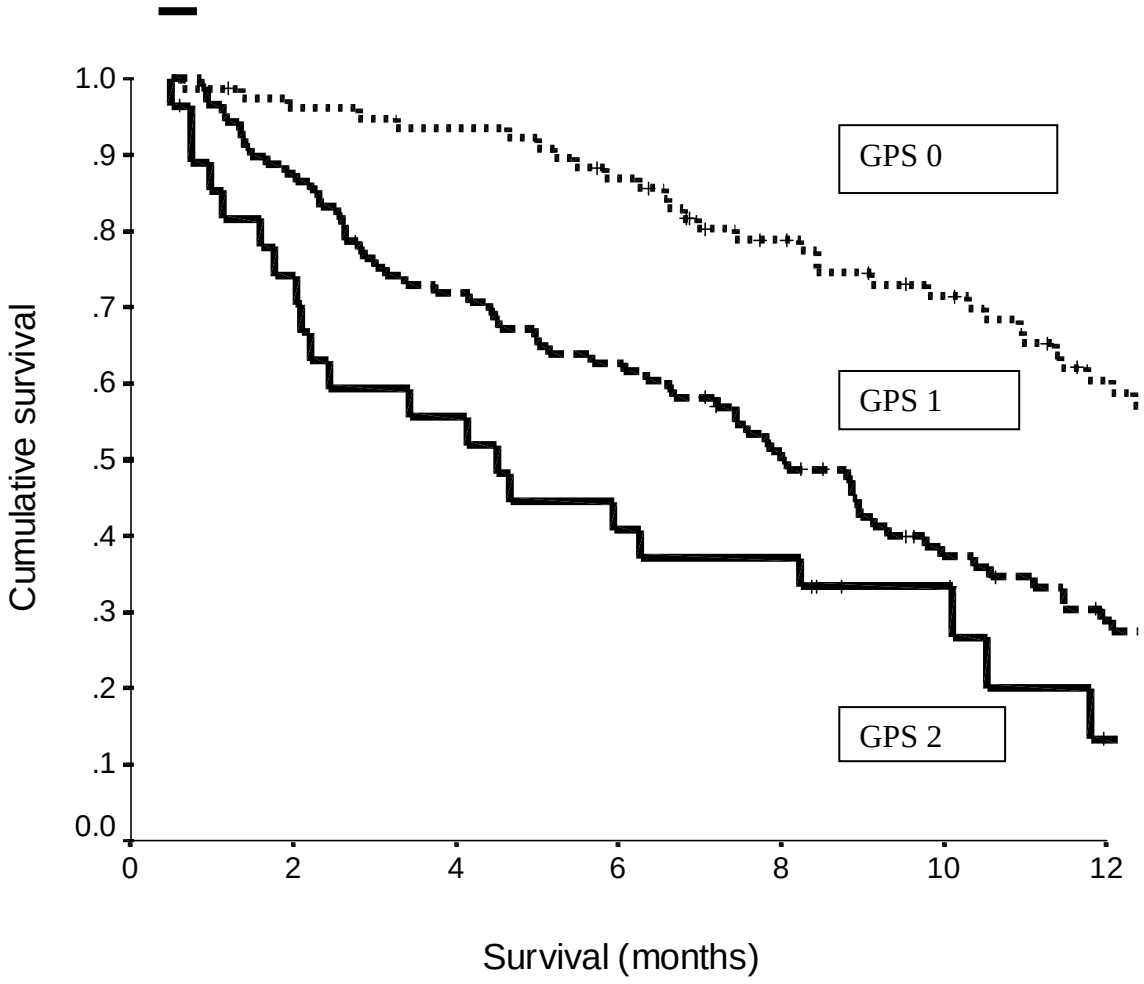


Figure 4.2 The relationship between an inflammation based prognostic score (GPS, 0, 1, 2 from top to bottom) and survival in patients with inoperable gastro-oesophageal cancer receiving active treatment.

CHAPTER 5: COMPARISON OF AN INFLAMMATION-BASED PROGNOSTIC SCORE (GPS) WITH PERFORMANCE STATUS (ECOG-PS) IN PATIENTS RECEIVING PALLIATIVE CHEMOTHERAPY FOR GASTRO-OESOPHAGEAL CANCER.

5.1 Introduction

A small proportion of patients with inoperable, but localised oesophageal cancers may be suitable for potentially curative non-surgical treatment with chemo-radiation therapy. Most frequently however, these modalities are used in palliation for patients with gastro-oesophageal cancer. Whilst such palliative treatment may confer a small survival advantage over best supportive care, its primary aim is the relief of symptoms. [Pyrhonen et al., 1995;Murad et al., 1993;Enzinger et al., 1999]

Such palliation may however be gained at the expense of toxicity. Therefore, selection of patients most likely to benefit (and least vulnerable to side-effects) is of considerable importance. [Ross et al., 2002;Bleiberg et al., 1997] Previous studies in patients undergoing chemotherapy for gastro-oesophageal cancer have indicated patient's performance status to be associated with treatment outcome and survival [Polee et al., 2003;Yoshida et al., 2004] and this assessment is commonly used by many clinicians when selecting treatment options.

The GPS has been shown to have prognostic value independent of stage and performance status in patients with inoperable non-small cell lung cancer. [Forrest et al., 2004;Forrest et al., 2003] Furthermore, the GPS was a more accurate predictor of survival than performance status in those patients receiving platinum based

chemotherapy. [Forrest et al., 2004] Recently, we have shown that the GPS predicts survival, independent of stage, in an unselected cohort of patients with inoperable gastro-oesophageal cancer undergoing a varied number of treatments (see chapter 4).

The aim of the present study was to compare the value of the GPS and ECOG-ps, in evaluating the response to palliative, platinum based treatment and survival, in patients with advanced gastro-oesophageal cancer.

5.2 Patients and methods

5.2.1 Patients

Sixty five patients presenting with gastro-oesophageal carcinoma to the upper GI surgical unit in the Royal Infirmary, Glasgow between January 1999 and December 2005 and who received platinum based chemotherapy or platinum based chemo-radiotherapy with palliative intent, were studied. The specific palliative regimes of the study group are shown in Table 5.1. Patients undergoing chemo-radiotherapy for oesophageal lesions, (stage I-III, excluding T4 lesions) with curative intent were excluded. Patients treated with curative intent, typically received 50GY radiotherapy with concomitant cisplatin + 5FU chemotherapy.

Patients were staged using a combination of endoscopy, CT scan of chest and abdomen, laparoscopy and / or endoscopic ultrasound, in addition to clinical assessment. The specific use of these modalities was dependent upon the clinical features of the cancer and where appropriate, a formal assessment of fitness, (cardiac and lung function testing) was also performed.

ECOG-ps, haemoglobin, white cell and lymphocyte counts, C-reactive protein and albumin were recorded at the time of diagnosis. The extent of tumor spread was recorded using the TNM stage. Tumors around the gastro-esophageal junction were further classified according to site, using the Siewert system [Siewert and Stein, 1998]; type 1 and 2 lesions of the gastro-esophageal junction were designated esophageal cancers. Type 3 tumors of the cardia were designated gastric cancers.

Thirty eight patients received platinum-based chemotherapy alone and 27 patients received platinum-based chemotherapy with concomitant radiation therapy. The number of patients receiving each specific regime is shown in Table 5.1 Toxicity was recorded using the Common Toxicity Criteria (CTC) [Oken et al., 1982] and treatment response was assessed radiologically with CT scanning and clinically, based on control of symptoms.

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

5.2.2 Methods

Routine laboratory measurements of haemoglobin, white cell and lymphocyte counts, C-reactive protein and albumin were carried out at the time of diagnosis. The

limit of detection of the C-reactive protein assay was <6mg/l with the upper limit of normal values being <10 mg/l. The coefficients of variation of these methods, over the range of measurements, was less than 10% as established by routine quality control.

The GPS was derived as previously detailed.[Forrest et al., 2004;Forrest et al., 2003] Briefly, patients with both an elevated C-reactive protein (>10 mg/l) and hypoalbuminaemia (<35g/l) were allocated a score of 2. Patients in whom only one of these biochemical abnormalities was present were allocated a score of 1. Patients in whom neither of these abnormalities was present were allocated a score of 0.

5.2.3 Statistics

Data are presented as hazard ratios (HR) and 95% CI. Comparisons between groups of patients were carried out using contingency table analysis (X2) as appropriate. Grouping of the laboratory variables (haemoglobin, white cell and lymphocyte counts, C-reactive protein and albumin) was carried out using standard thresholds.[O'Gorman et al., 2000;McMillan et al., 2001a;Maltoni et al., 2005] Survival (cancer-specific) analysis of the group variables was performed using the Cox proportional hazards model. Deaths up to the end of January 2007 have been included in the analysis. Multivariate survival analysis, including all covariates on univariate analysis, was performed using a stepwise backward procedure to derive a final model of the variables that had significant independent relationship with survival. To remove a variable from the model, the corresponding p-value had to be greater than 0.10. Analysis was performed using SPSS software (SPSS Inc., Chicago, IL, USA).

5.3 Results

The characteristics of the 65 patients who received platinum-based treatment with palliative intent, are shown in Table 5.2. The majority were male, under the age of 65 years and had metastatic disease. Thirty-seven patients had disease arising in the esophagus and 28 arising from the stomach. The majority of patients had an abnormal GPS (1-2, 60%) but a good ECOG-ps (0-1, 92%). Of the 9 patients with hypoalbuminaemia, 8 had an elevated C-reactive protein concentration.

Comparison of patients with either gastric or esophageal cancer showed no significant differences in age distribution, gender, tumor stage, ECOG-ps, haemoglobin, white cell and lymphocyte counts, survival or the GPS. In contrast, the esophageal cancer group included patients with squamous cell disease and patients receiving radiotherapy. The relationship between the GPS and clinico-pathological characteristics, including radiotherapy, in patients receiving platinum-based treatment is shown in Table 5.3. Age, sex, tumour type and site, TNM stage, whether radiotherapy was given and performance status was similar between the GPS groups. In contrast, haemoglobin concentrations ($p<0.10$) and lymphocyte percentages ($p<0.01$) were lower and white cell counts ($p<0.05$) were higher with an increasing GPS score. During the follow-up period 59 (91%) of patients died. The majority (58 patients) died from their cancer, but 1 patient died of intercurrent disease.

On univariate and multivariate analysis only the GPS (HR 1.65, 95%CI 1.10-2.47, $p<0.05$) was a significant predictor of cancer specific survival (Table 5.4). It is recognised that squamous cell carcinomas are relatively more sensitive to chemo-radiation therapy [Geh, 2002]. Therefore, we carried out a subset analysis of those

patients with adeno-carcinomas (Table 5.5). On univariate survival analysis, lymphocyte percentage ($p<0.05$) and the GPS ($p<0.01$) were significant predictors of cancer specific survival. On multivariate survival analysis, only the GPS (HR 1.69, 95%CI 1.00-2.86, $p=0.05$) remained an independent predictor of survival. The relationship between the GPS and response to treatment in those patients receiving palliative treatment (n= 65) is shown in Table 5.6. Only 8 patients had a GPS of 2 and patients with a GPS of 1 or 2 were therefore grouped. Patients grouped according to their GPS were similar in terms of tumor site, ECOG-ps and CT assessed response. However, in comparison with patients with GPS of 0, those patients with a GPS score of 1 or 2 required more frequent chemotherapy dose reduction ($p<0.05$), were less likely to exhibit a clinical response to treatment ($p<0.05$) and had shorter survival ($p<0.05$).

5.4 Discussion

Amongst patients with advanced inoperable malignancy, the decision whether to offer active treatment is based on a number of factors including an assessment of patient fitness, encapsulated in the performance status scoring system. However, the assessment of performance status is subjective and the development of more objective assessment of outcome through a laboratory based scoring system thus remains appealing. [Maltoni et al., 2005] This may be in part due to the subjective nature of the assessment of performance status and that it reflects functional status at a specific point in time. In contrast, the GPS, based on the presence of ongoing systemic inflammatory response and hypoalbuminaemia, reflects the process which drives the progressive nutritional decline of the patient with advanced cancer. [McMillan et al.,

1998;McMillan et al., 2001a;Scott et al., 2002] This is consistent with our findings of an elevated C-reactive protein in 8 out of 9 patients with hypoalbuminaemia. The independent prognostic value of an elevated C-reactive protein concentration and hypoalbuminaemia and their combination, in the form of the GPS, has been established in a variety of advanced solid tumours [Forrest et al., 2003;Ramsey et al., 2007;Al Murri et al., 2006;Glen et al., 2006]. In the present study, similar to TNM stage, we have not examined the independent prognostic value of the individual components of these prognostic systems.

In this small study, but with mature follow-up, an inflammation-based prognostic score, the GPS, appeared to be superior to the clinician assessment of performance status in predicting both response to treatment and survival amongst gastro-oesophageal cancer patients receiving palliative platinum-based chemotherapy or chemo-radiation. The median difference in survival, between those patients with an elevated GPS (1, 2) and a normal GPS (0), although significant was small, approximately 2 months**.** In addition, there were only 8 patients with a GPS of 2 and therefore caution must be used in interpreting these results. However, there were also significant differences in dose reduction and clinical response which are likely to have impacted on quality of life of these patients. Taken together, the positive impact of palliative chemotherapy is likely to be substantially greater in those patients with a normal GPS.

A limitation of the study is the marked heterogeneity of the tumours studied. The cohort includes oesophageal tumours (both adenocarcinomas and squamous carcinomas), gastro-oesophageal junctional tumours and gastric cancers. Due to the relatively small number of patients in this study, meaningful analysis of each anatomical

and histological tumour subgroup is not possible and the tumour biology and characteristics may vary between these groups. It is recognised however, that squamous cell carcinomas are relatively more sensitive to chemo-radiation therapy [Geh, 2002] and we therefore, we carried out a subset analysis of those patients with adeno-carcinomas (Table 5.5).

Previous work has shown that an increasing GPS was associated with poorer cancer specific survival, independent of stage in an unselected cohort of patients with inoperable gastro-oesophageal cancer (see chapter 4). In the present study we confirm that the GPS predicts the response to platinum-based chemotherapy or chemo-radiotherapy, independent of the stage of disease and the treatment given.

It remains unclear why an ongoing systemic inflammatory response should produce decreased tolerance of cytotoxic chemotherapy. Recent work has shown the activity of the enzyme cytochrome P450 3A, (involved in the biotransformation of several cytotoxics), to be compromised in patients with an elevated C-reactive protein concentration [Rivory et al., 2002;Slaviero et al., 2003;Baker et al., 2004] and activation of the systemic inflammatory response (as evidenced by the GPS) increases activity of γ-glutamyl transferase and alkaline phosphatase. [Brown et al., 2006] However the relation of these events to the specific metabolism of platinum compounds or fluoropyrimidines is unclear. Irrespective of the mechanisms involved, we believe the presence or absence of a systemic inflammatory response, as measured by the GPS, should be evaluated as a possible influence on outcome in future trials of chemotherapy in patients with advanced cancer and may be used in the stratification of patients in such trials.

In summary, the presence of a systemic inflammatory response, as evidenced by the GPS, appears to be superior to the subjective assessment of performance status (ECOG-ps) in predicting the response to platinum-based treatment in patients with advanced gastro-oesophageal cancer.

Table 5.1. Number of patients in each chemotherapy/ radiotherapy regime.

Chemotherapeutic agents	Radiotherapy Dose 0 Gy	Radiotherapy Dose 20 Gy	Radiotherapy Dose 30 Gy	Radiotherapy Dose 0-30 Gy
Epirubcin + Cisplatinum + 5-Fluoro-uracil	25	3	11	39
Cisplatinum + 5-Fluoro-uracil	4	1	10	15
Mitomycin + Cisplatinum + 5-Fluoro-uracil	3	1	1	5
Others	6	0	0	6
All regimes	38	5	22	65

Table 5.2. Baseline clinicopathological characteristics in patients with advanced gastro-oesophageal cancer, receiving platinum based treatment.

	Gastric (n= 28)	Oesophageal (n= 37)	(p-value)
Age (<65/ 65-75/ >75 years)	18/ 9/ 1	16/ 17/ 4	0.077
Sex (m/ f)	19/ 9	31/ 6	0.134
Tumour type (adenocarcinoma/ squamous)	28/ 0	24/ 13	<0.001
TNM Stage (III/ IV)	6/ 22	12/ 25	0.330
Radiotherapy (Y/ N)	3/ 25	24/ 13	<0.001
ECOG-ps (0/ 1/ 2)	14/ 12/ 2	15/ 18/ 3	0.549
Haemoglobin (>12/ <12 g/l)	20/ 8	30/ 6	0.257
White cell count (<8.5/ 8.5-11.0/ >11.0 109/l)	12/ 11/ 5	21/ 6/ 9	0.683
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	11 14/ 3	16/ 13/ 7	0.844
GPS (0/ 1/ 2)	11/ 15/ 2	15/ 16/ 6	0.643
Survival (months)*	11.0 (8.8-13.2)	8.8 (5.1-12.5)	0.311

*Median (95%CI), GPS Glasgow Prognostic score; ECOG-ps Eastern Co-operative Oncology Group.

Table 5.3. Relationship between the GPS and baseline clinicopathological characteristics in patients with gastro-oesophageal cancer, receiving platinum based treatment.

	GPS 0 (n= 26)	GPS 1 (n= 31)	GPS 2 (n=8)	(p-value)
Age (<65/ 65-75/ >75 years)	13/ 11/ 2	18/ 10/ 3	3/ 5/ 0	0.993
Sex (m/ f)	20/ 6	26/ 5	4/ 4	0.346
Tumour type (adenocarcinoma/ squamous)	22/ 4	24/ 7	6/ 2	0.461
Tumour site (oesophageal/gastric)	15/ 11	16/ 15	6/ 2	0.643
TNM Stage (III/ IV)	8/ 18	8/ 23	2/ 6	0.676
Radiotherapy (Y/N)	9/ 17	14/ 17	4/ 4	0.354
ECOG-ps (0/ 1/ 2)	13/ 11/ 1	13/ 14/ 4	3/ 5/ 0	0.435
Haemoglobin (>12/ <12 g/l)	21/ 4	25/ 6	4/ 4	0.094
White cell count (<8.5/ 8.5-11.0/ >11.0 109/l)	17/ 6/ 2	13/ 10/ 8	3/ 1/ 4	0.011
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	16/ 6/ 3	9/ 19/ 3	2/ 2/ 4	0.006

ECOG-ps Eastern Co-operative Oncology Group.

Table 5.4. Clinical characteristics and cancer specific survival in patients with gastro-oesophageal cancer, receiving platinum based treatment: Univariate survival analysis

	Univariate HR (95% CI)	p-value
Age (<65/ 65-75/ >75)	0.68 (0.43-1.10)	0.114
Sex (male/ female)	1.06 (0.58-1.93)	0.860
Tumour type (adenocarcinoma/ squamous)	0.89 (0.45-1.78)	0.746
Tumour site (Gastric/ Oesophageal)	1.31 (0.78-2.20)	0.313
TNM Stage (III/ IV)	1.22 (0.68-2.19)	0.504
Radiotherapy (Y/ N)	1.24 (0.73-2.09)	0.424
ECOG-ps (0/ 1/ 2)	0.92 (0.62-1.40)	0.675
Haemoglobin (>12/ <12 g/l)	1.66 (0.90-3.09)	0.107
White cell count (<8.5/ 8.5-11.0/ >11.0 109/l)	1.24 (0.90-1.72)	0.196
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	1.24 (0.90-1.80)	0.173
GPS (0/ 1/ 2)	1.65 (1.10-2.47)	0.015

GPS Glasgow Prognostic score; ECOG-ps Eastern Co-operative Oncology Group.

Table 5.5. Clinical characteristics and cancer specific survival in patients with gastro-oesophageal adeno-carcinoma, receiving platinum based treatment: Univariate survival analysis.

	Univariate HR (95% CI)	p-value
Age (<65/ 65-75/ ≥75)	0.71 (0.42-1.19)	0.194
Sex (male/ female)	0.97 (0.50-1.88)	0.932
Tumour site (Gastric/ Oesophageal)	1.31 (0.74-2.32)	0.352
TNM Stage (III/ IV)	1.17 (0.60-2.27)	0.639
Radiotherapy (Y/ N)	1.15 (0.63-2.11)	0.644
ECOG-ps (0/ 1/ 2)	0.84 (0.54-1.30)	0.424
Haemoglobin (≥12/ <12 g/l)	1.60 (0.84-3.05)	0.154
White cell count (<8.5/ 8.5-11.0/ >11.0 109/l)	1.17 (0.81-1.68)	0.403
Lymphocyte percentage (20-40/ 12-19.9/ 0-11.9%)	1.53 (1.04-2.24)	0.030
GPS (0/ 1/ 2)	1.84 (1.16-2.90)	0.009

GPS Glasgow Prognostic score; ECOG-ps Eastern Co-operative Oncology Group.

Table 5.6. The relationship between the GPS and response to palliative chemotherapy in patients with gastro-oesophageal cancer.

	GPS 0 (n= 26)	GPS 1-2 (n= 39)	(p-value)
Tumour site (Gastric/ Oesophageal)	11/ 15	17/ 22	0.919
ECOG-ps (0/ 1/ 2)	13/ 11/ 1	16/ 19/ 4	0.286
Chemo dose reduction (no/ yes)	16/ 10	13/ 26	0.026
Toxicity (CTC) (0-2/ 3-4)	17/ 7	22/ 17	0.256
Clinical response (improved/ static-progressive)	17/ 9	14/ 25	0.021
CT response (improved/ static/ progressive)	14/ 8/ 3	13/ 11/ 3	0.717
Survival (months)*	11.9 (10.1-13.7)	9.5 (7.6-11.4)	0.020

*Median (95%CI), GPS Glasgow Prognostic score; ECOG-ps Eastern Co-operative Oncology Group.

CHAPTER 6: IS HYPOALBUMINAEMIA, AN INDEPENDENT PROGNOSTIC FACTOR IN PATIENTS WITH GASTRIC CANCER?

6.1 Introduction

Each year in the UK, there are approximately 8,500 new cases of gastric cancer and over 5,500 deaths attributable to the disease [Cancer Research UK Information Resource Centre, 2004]. Despite this often short median and poor overall survival, there is marked heterogeneity in the duration of survival amongst patients. Surgery confers the greatest chance of long-term cure but is associated with appreciable morbidity and mortality. As a consequence, potentially curative surgery is carried out relatively infrequently and most patients are treated palliatively. Whilst such palliative treatment may confer a small survival advantage over best supportive care, it is primarily directed towards symptom relief [Pyrhonen et al., 1995]. Treatment, in particular with chemotherapy, may sometimes be at the expense of toxicity [Ross et al., 2002]. Therefore, the appropriate selection of patients most likely to benefit is of considerable importance.

A number of recent studies have indicated that hypoalbuminaemia is independently associated with survival in gastric cancer, whether operable [Lien et al., 2004;Onate-Ocana et al., 2007] or inoperable [Alici et al., 2006;Onate-Ocana et al., 2007;Lee et al., 2007]. Onate-Ocana and coworkers (2007), in 1023 gastric cancer patients, showed that lower levels of albumin predicted poorer survival independent of TNM stage and whether or not patients underwent curative resection. Furthermore, the

same group reported that hypoalbuminaemia predicted poor survival in patients with T4 gastric cancer [Onate-Ocana et al., 2008].

However, there is increasing evidence that the prognostic value of albumin may be secondary to an ongoing systemic inflammatory response, as evidenced by elevated concentrations of C-reactive protein, in a variety of advanced cancers [McMillan et al., 2007;Al Murri et al., 2006;Forrest et al., 2003;Glen et al., 2006;McMillan et al., 2001b]. If this were the case in patients with gastric cancer, then it might be expected that the prognostic significance of hypoalbuminaemia would be dependent on the presence of a systemic inflammatory response.

The aim of the present study was to assess the relationship between hypoalbuminaemia, an elevated C-reactive protein and survival in patients with gastric cancer.

6.2 Patients and methods

6.2.1 Patients

Patients diagnosed with gastric carcinoma, attending the upper GI surgical unit in the Royal Infirmary, Glasgow between April 1997 and December 2005 and who had a pre-treatment measurement of albumin and C-reactive protein were studied. Patients were staged using a combination of endoscopy, CT scan of chest, abdomen and pelvis, laparoscopy and endoscopic ultrasound, in addition to clinical assessment. The specific use of these modalities was dependent upon the clinical tumour features and where appropriate, assessment of fitness, cardiac and lung function testing was also performed.

The extent of tumour spread was recorded using the TNM stage. Tumours around the gastro-oesophageal junction were further classified according to site, using the Siewert system [Siewert and Stein, 1998]; type 1 and 2 lesions of the gastro-oesophageal junction were designated as cancers of the oesophagus and were therefore excluded. Type 3 tumours of the cardia were designated gastric cancers.

Patients who had any form of chronic inflammatory disease (e.g. vasculitis, connective tissue disorders, rheumatological conditions) and those with cancers arising in other organs were excluded from the analysis. Patients with stage I - III disease with significant co-morbidity were not considered suitable for curative surgery.

In the non-operable group, patients who underwent palliative chemotherapy, radiotherapy, endoscopic laser or palliative by-pass surgery were considered to have had "active" treatment. Patients receiving palliative care (symptom control) were considered to have had "supportive" treatment.

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

6.2.2 Methods

Routine laboratory measurements of C-reactive protein and albumin at the time of diagnosis were carried out. The limit of detection of the C-reactive protein assay was <6mg/l. The coefficients of variation of these methods, over the range of measurements, was less than 5% as established by routine quality control.

6.2.3 Statistics

Comparisons between groups of patients were carried out using the Mantel-Haenszel (X2) test for trend and Spearman rank correlation as appropriate. Grouping of the laboratory variables albumin and C-reactive protein was carried out by using standard thresholds.[Maltoni et al., 2005] Survival (cancer-specific) analysis of the group variables was performed using a Cox proportional-hazards model. Deaths up to the end of April 2007 were included in the analysis. Multivariate survival analysis, including all covariates that were significant on univariate analysis, was performed using a stepwise, backward procedure to derive a final model of the variables that had a significant independent relation with survival. To remove a variable from the model, the corresponding P value had to be >.10. Analyses were performed using SPSS software (SPSS Inc., Chicago, IL).

6.3 Results

The baseline characteristics of patients with gastric cancer (n= 217), grouped according to the albumin concentration, are shown in Table 6.1. The majority were male, over the age of 65 years, had stage III/ IV disease and received palliative treatment. The majority of patients had albumin and C-reactive protein concentrations in the normal range and on follow-up, died of their cancer.

Patients were grouped according to the absence or presence of hypoalbuminaemia (Table 6.1). Patients with hypoalbuminaemia were older ($p<0.01$), had more advanced disease ($p<0.01$), had higher C-reactive protein concentrations

($p<0.0001$), more likely to receive palliative treatment ($p<0.0001$) and die on follow-up ($p<0.01$) compared with patients who had albumin concentrations in the normal range. The minimum follow-up was 15 months; the median follow-up of the survivors was 31 months. During this period 157 (72%) patients died of their cancer and a further 5 patients died of intercurrent disease.

Survival analysis is shown in Table 6.2. On univariate analysis, age ($p<0.10$), tumour site ($p<0.01$), clinical stage ($p<0.0001$) and treatment ($p<0.001$) were significant predictors of cancer specific survival. Also, whether treated as continuous or categorical variables, albumin ($p<0.0001$) and C-reactive protein ($p<0.0001$) were significant predictors of cancer specific survival. On multivariate analysis, clinical stage ($p<0.0001$) and treatment ($p<0.0001$) remained significant independent predictors of cancer specific survival. Also, whether treated as continuous or categorical variables, C-reactive protein ($p<0.0001$) remained a significant independent predictor of cancer specific survival. Albumin, however, was no longer an independent predictor of survival (Table 6.2).

The relationship between log10 C-reactive protein and albumin concentrations ($rs= 0.47$, $p<0.001$) is shown in Figure 6.1. The relationship between C-reactive protein ($\leq$10mg/l, >10mg/l) and cancer specific survival ($p<0.0001$) in patients with gastric cancer and a normal albumin concentration ($\geq$35g/l) is shown in Figure 6.2. The relationship between C-reactive protein ($\leq$10mg/l, >10mg/l) and cancer specific survival ($p=0.0023$) in patients with gastric cancer and hypoalbuminaemia (<35g/l) is shown in Figure 6.3.

6.4 Discussion

The results of the present study confirm the work of previous authors that low albumin concentrations, either as a continuous or categorical variable, are significantly associated with poorer survival in patients with gastric cancer [Lien et al., 2004;Alici et al., 2006;Onate-Ocana et al., 2007;Lee et al., 2007;Onate-Ocana et al., 2008]. However, the results of the present study show that there is a direct relationship between an elevated C-reactive protein concentration and hypoalbuminaemia. Moreover, both hypoalbuminaemia and C-reactive protein predict survival in patients with gastric cancer and the prognostic value of hypoalbuminaemia is degraded by the inclusion of C-reactive protein. Therefore, the current view (held by many clinicians) that hypoalbuminaemia reflects poor nutritional status, is likely to be an over simplification and the relationship between hypoalbuminaemia and poor survival in patients with gastric cancer is more complex. Indeed, Ellegard and co-workers have recently concluded that although several biochemical markers are frequently used to monitor nutritional status, including subnormal serum levels of albumin, transferrin, and transthyretin, systemic inflammation is central to weight loss in cancer, explaining variations in body composition [Ellegard and Bosaeus, 2008]. Furthermore, they conclude that the most important biochemical index to be measured in malignant disease is the assessment of systemic inflammatory response. It is of interest therefore, that Onate- Ocana and co-workers (2007) previously recognised that there may be a number of potential confounding factors responsible for the association between hypoalbuminaemia and poor survival in gastric cancer. They identified the systemic

inflammatory response as a plausible confounding factor, consistent with the present results.

In patients with gastric cancer it is recognised that there may be reduced caloric intake due to stenosis of the cardia or pylorus. However the results of the present and these previous studies are consistent with the hypothesis that the systemic inflammatory response plays a major role in the progressive nutritional and functional decline in patients with cancer [McMillan, 2008]. Indeed, measurement of the systemic inflammatory response, in particular C-reactive protein, has been included in the definition of cancer cachexia, together with weight loss and reduced calorie intake [Morley et al., 2006;Fearon et al., 2006]. Therefore, taken together with the results of the present study, it would appear that the relationship between hypoalbuminaemia and poor cancer specific survival, is secondary to that of the systemic inflammatory response, in patients with gastric cancer.

The basis of the systemic inflammatory response in patients with gastric cancer is not clear. It may be due to the increased production of pro-inflammatory cytokines by the tumour or in response to bacterial infection and tissue necrosis. Indeed there is some evidence of increased production of interleukin 6 (IL-6), a primary mediator of increased C-reactive protein concentration, from gastric tumours [Ashizawa et al., 2005;Liao et al., 2008]. In addition, serum IL-6 levels have been shown to be closely correlated with C-reactive protein concentration, in patients with gastric cancer [Ikeguchi et al., 2009;Kim et al., 2009]. Increasing tumour size and the degree of tumour ulceration has also been shown be associated with poor prognosis in patients with gastric cancer [Xu et al., 2009]. However, it remains to be determined whether tumour expression of IL-6, tissue necrosis or the host response, is responsible for

elevated C-reactive protein concentrations and hypoalbuminaemia in patients with gastric cancer.

The mechanism by which an elevated C-reactive protein concentration is related to poorer survival is similarly not clear. It may be that an elevated systemic inflammatory response is associated with a poor host, local immune response to the tumour and therefore increased lymph node spread and metastases. Alternatively, it may be that an elevated C-reactive protein concentration is associated with increased vascular invasion or angiogenesis, thus again conveying metastatic potential. However the tumour/ host interaction and its relationship to the systemic inflammatory response and survival, is likely to be complex.

Measurement of C-reactive protein in patients with gastric cancer may be used to better predict patient outcome, improving stratification of patients and therefore ensuring allocation of the most appropriate treatment, most likely to benefit. Indeed, measurement of C-reactive protein (as part of inflammation based prognostic scores) has been shown to improve clinical staging in patients with gastro-oesophageal cancer and can be incorporated into current staging algorithms [Deans et al., 2007]. Furthermore, measurement of C-reactive protein, systemic inflammation-based markers and prognostic scores not only identify patients at risk of a poor outcome, but may also provide well-defined therapeutic targets for clinical trials.

In summary, the results of the present study show that the systemic inflammatory response is a major confounding factor in the relationship between low albumin concentrations and poorer cancer specific survival. Accordingly, C-reactive protein should be measured in addition, to albumin to define baseline risk in patients with gastric cancer.

Table 6.1 The relationship between hypoalbuminaemia, clinicopathological characteristics, systemic inflammatory response and survival in patients with gastric cancer (n=217).

	Albumin ≥35g/l (n= 171)	Albumin <35g/l (n= 46)	*P*-value
Age (<65/ 65-74/ ≥75years)	71/ 50/ 50	11/ 7/ 28	0.001
Sex (male/ female)	111/ 60	27/ 19	0.438
Tumour site (proximal/ body/ antrum/ overlapping/ not defined)	35/ 41/ 48/ 33/ 14	8/ 10/ 10/ 14/ 4	0.316
Clinical TNM Stage (I/ II/ III/ IV)	42/ 34/ 26/ 69	6/ 4/ 6/ 30	0.004
C-reactive protein (mg/l)[a]	<6 (<6-190)	28 (<6-253)	<0.001
C-reactive protein (≤10/ >10mg/l)	110/ 61	12/ 34	<0.001
Treatment (surgery/ palliative-active/ palliative-supportive)	68/ 83/ 20	3/ 30/ 13	<0.001
Alive	50	5	
Dead			
Cancer	119	38	
Non-cancer	2	3	0.003

[a] median (range)

Table 6.2 Clinicopathological characteristics and cancer specific survival in patients with gastric cancer (n=217): Survival analysis

		Univariate survival Analysis		Multivariate survival analysis	
	Patients 217 (%)	Hazard ratio (95%) C.I)	P- value	Hazard ratio (95%) C.I)	P- value
Age < 65 years	82 (38)	1		1	
65-74 years	57 (26)	0.81 (0.53-1.23)	0.324	0.98 (0.64-1.50)	0.925
>75 years	78 (36)	1.42 (0.99-2.04)	0.058	1.11 (0.72-1.71)	0.642
Sex Male	138 (64)	1			
Female	79 (36)	1.23 (0.89-1.70)	0.219		
Tumour site proximal	43 (20)	1		1	
body	51 (24)	0.97 (0.60-1.58)	0.903	1.19 (0.72-1.96)	0.508
antrum	58 (27)	1.04 (0.65-1.65)	0.874	2.31 (1.38-3.86)	0.001
overlapping	47 (22)	2.07 (1.30-3.32)	0.002	1.46 (0.90-2.36)	0.128
not defined	18 (8)	0.58 (0.29-1.18)	0.134	1.57 (0.73-3.37)	0.245
TNM stage I	48 (22)	1		1	
II	38 (17)	1.43 (0.78-2.64)	0.243	1.31 (0.70-2.48)	0.392
III	32 (15)	2.50 (1.38-4.52)	0.002	2.05 (1.11-3.81)	0.023
IV	99 (46)	8.06 (4.89-13.30)	<0.001	4.50 (2.50-8.11)	<0.001
Treatment Surgery	71 (33)	1		1	
Palliative-active	113 (52)	4.48 (2.90-6.91)	<0.001	2.44 (1.38-4.32)	0.002
Palliative-supportive	33 (15)	8.71 (5.14-14.73)	<0.001	3.28 (1.61-6.72)	<0.001
Albumin (g/l)	217	0.93 (0.91-0.95)	<0.001	1.00 (0.96-1.03)	0.802
C-reactive protein (mg/l)[a]	217	5.09 (3.59-7.22)	<0.001	2.57 (1.70-3.87)	<0.001
Albumin ≥ 35g/l	171 (79)	1		1	
< 35 g/l	46 (21)	2.17 (1.49-3.15)	<0.001	1.13 (0.76-1.69)	0.545
C-reactive protein ≤ 10mg/l	122 (56)	1		1	
> 10mg/l	95 (44)	3.97 (2.84-5.54)	<0.001	2.37 (1.65-3.40)	<0.001

[a] log10 C-REACTIVE protein

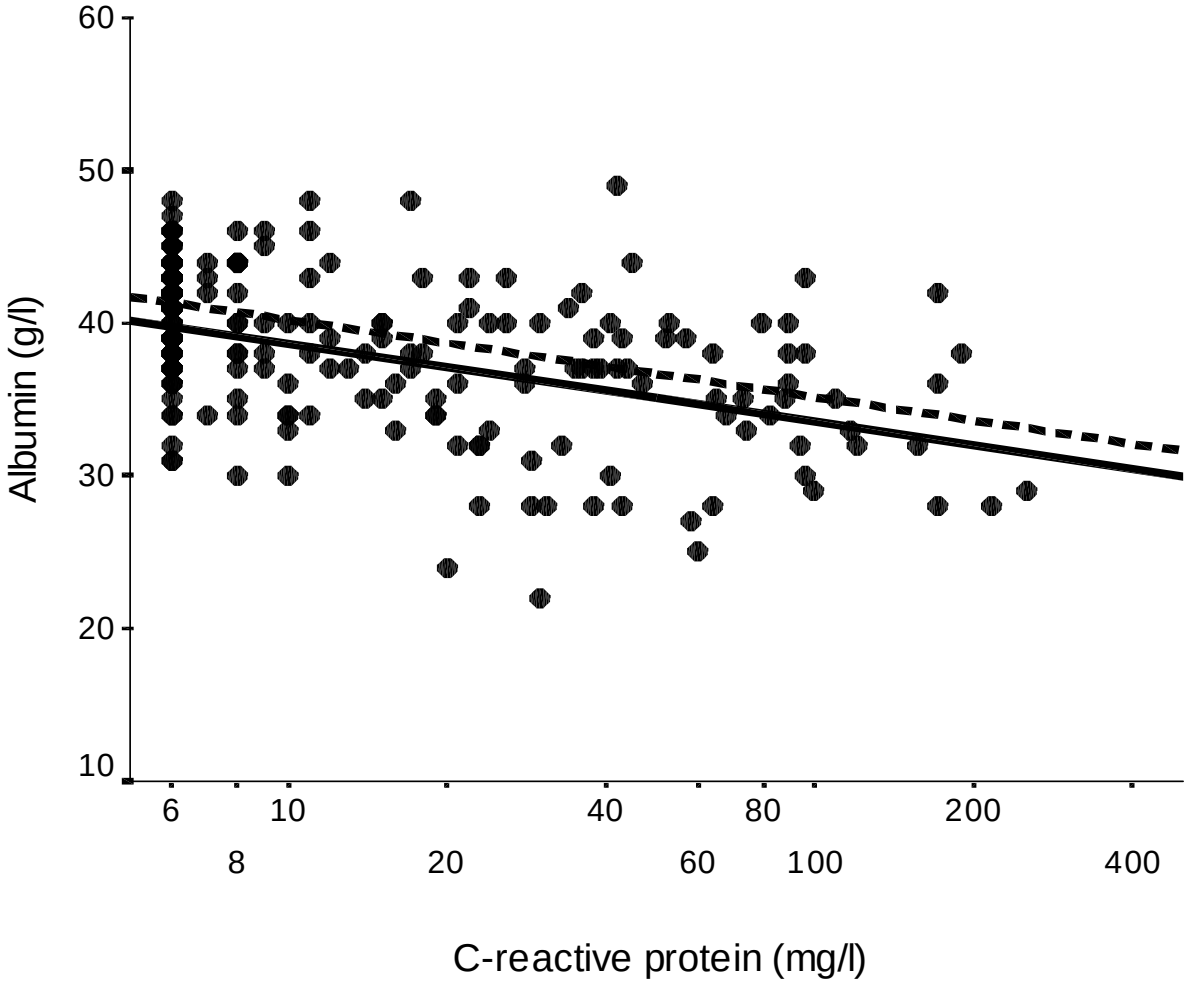


Figure 6.1 The relationship between C-reactive protein and albumin in patients with operable (top line) and inoperable (bottom line) gastric cancer.

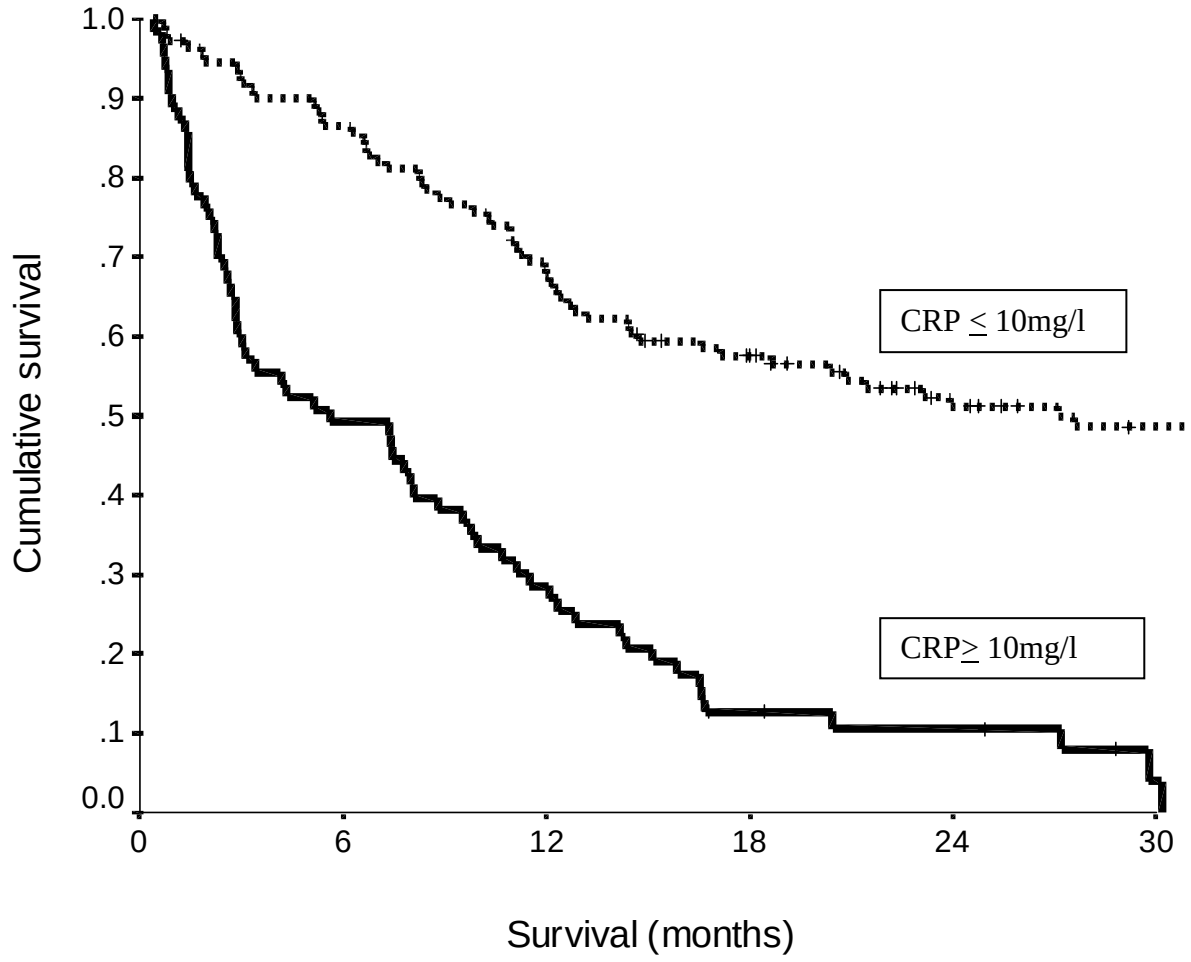


Figure 6.2 The relationship between the systemic inflammatory response (C-reactive protein ≤10mg/l, >10mg/l from top to bottom) and cancer specific survival (p<0.0001) in patients with gastric cancer and a normal albumin concentration (≥35g/l).

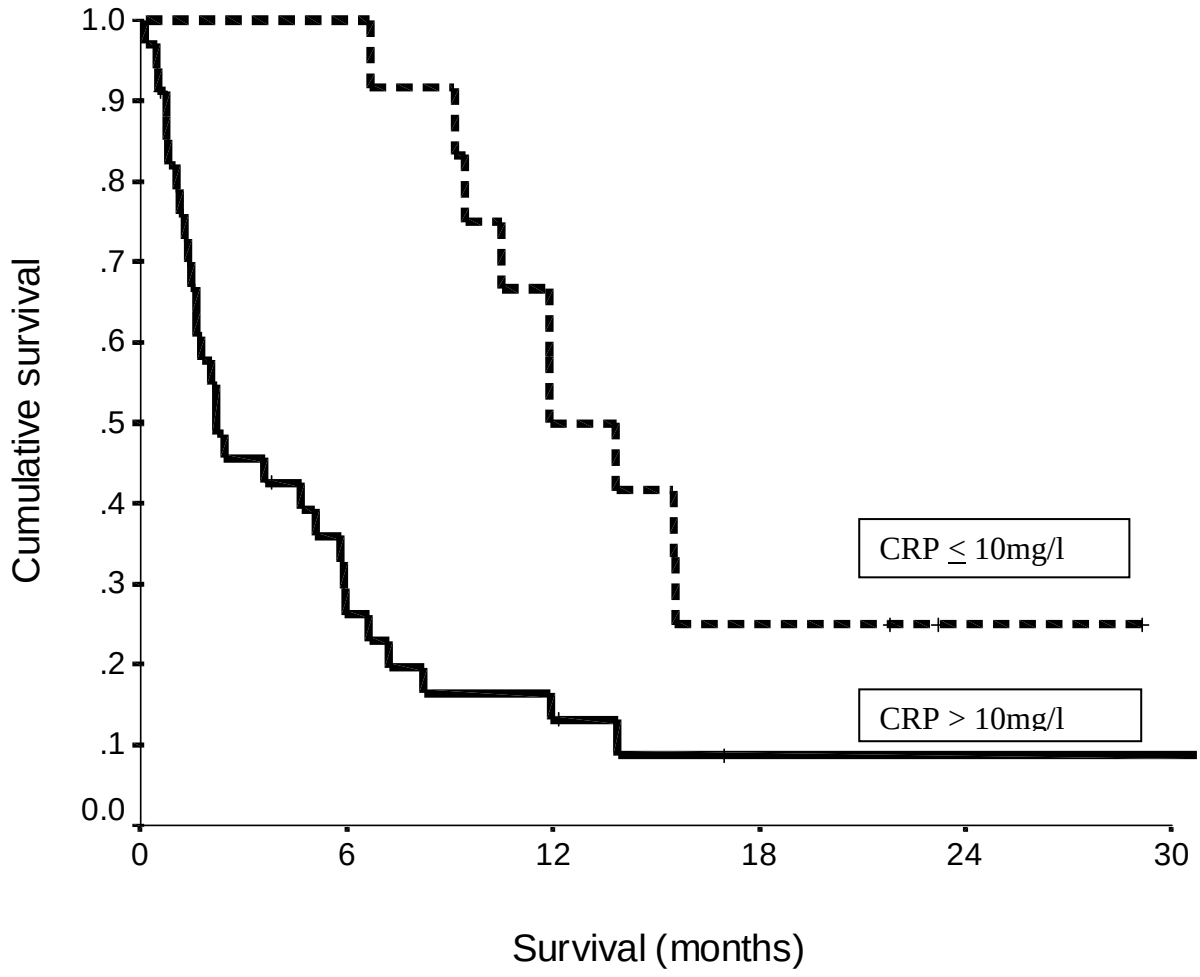


Figure 6.3 The relationship between the systemic inflammatory response (C-reactive protein ≤10mg/l, >10mg/l from top to bottom) and cancer specific survival (p=0.0023) in patients with gastric cancer and hypoalbuminaemia (<35g/l).

CHAPTER 7: COMPARISON OF PRE-TREATMENT CLINICAL PROGNOSTIC FACTORS IN PATIENTS WITH GASTRO-OESOPHAGEAL CANCER AND PROPOSAL OF A NEW STAGING SYSTEM.

7.1 Introduction

Currently, clinical staging in patients with gastro-oesophageal cancer, is based on measures of the burden of disease (CT, laparoscopy and Endoscopic Ultrasound) and the fitness of the patient (weight loss and performance status). However, neither weight loss or performance status are objectively defined [Ando M, 2001;Morley et al., 2006;Fearon et al., 2006], and as a consequence do not accurately stratify patient outcomes and responses to the treatment. Clearly, more accurate assessment of patient fitness will improve the allocation of treatment and therefore outcomes for all patients with gastro-oesophageal cancer.

In addition, the use of neoadjuvant chemo and radiotherapy has increased the need for more accurate clinical staging methods. In particular, following neoadjuvant therapy pathologic staging of the tumour specimen is not as informative as in untreated patients. Therefore, clinical staging is of crucial importance in determining the likely benefit of treatment, in terms of subsequent quality of life and survival.

Recently, the pre-treatment clinical factors; clinical stage, weight loss, performance status and an elevated C-reactive protein concentration, have been shown to independently predict survival in patients undergoing clinical staging for gastro-oesophageal cancer [Deans et al., 2007]**.** However, this has not to date been prospectively validated.

Also, the selective combination of C-reactive protein and albumin (termed the Glasgow Prognostic score, GPS) has been shown to be a prognostic factor, independent of tumour stage, in a variety of gastrointestinal cancers [McMillan, 2008] including gastro-oesophageal cancer [Kobayashi et al., 2008].

The aim of the present study was to examine the relationship between pre-treatment clinical prognostic factors and cancer specific survival in an unselected cohort of patients with gastro-oesophageal cancer.

7.2 Patients and methods

7.2.1 Patients

Two hundred and seventeen patients, undergoing staging investigations for gastro-oesophageal cancer (between January 2002 and December 2004) in the upper GI surgical unit at Glasgow Royal Infirmary, were studied.

For gastric cancers, TNM stage I to III tumours were considered to be amenable to curative surgical resection. For oesophageal cancers, TNM stage I to III tumours, excluding T4, were considered to be amenable to curative surgical resection.

The study was approved by the Research Ethics Committee of Glasgow Royal Infirmary.

7.2.2 Methods

The extent of tumour spread was recorded using the TNM stage. Tumours of the gastro-oesophageal junction were further classified according to site, using the Siewert system; type 1 and 2 lesions of the gastro-oesophageal junction were designated as cancers of the oesophagus. Type 3 tumours of the cardia were designated gastric cancers [Siewert and Stein, 1998].

Routine pre-operative laboratory measurements of albumin and C-reactive protein were carried out prior to staging laparoscopy. The coefficient of variation for these methods, over the range of measurement, was less than 10% as established by routine quality control procedures. The limit of detection of the assay was a C-reactive protein concentration of less than 5mg/l with the upper limit of normal values being $\leq$10mg/l.

The Edinburgh Clinical Risk Score (ECRS) was constructed as previously described [Deans et al., 2007]. An elevated C-reactive protein concentration (>5mg/l) scores 20, rate of weight loss of > 2.75% per month scores 20, Karnofsky PS of <60 scores 68, 60-70 scores 32 and 80-100 scores 0, and clinical stage IV scores 94, III scores 46, II scores 30 and I scores 0 (Table 7.1).

The mGPS was calculated as previously described [McMillan, 2008]. Briefly, patients with an elevated C-reactive protein concentration (>10 mg/L) and a decreased albumin concentration (<35 g/L) score 2. Those patients with an elevated C-reactive protein concentration (> 10mg/L) score 1 and patients with a C-reactive protein concentration of < 10mg/L and any albumin concentration score 0 (Table 7.1).

7.2.3 Statistics

Deaths up to the end of July 2008 have been included in the analysis. Univariate survival analysis and calculation of hazard ratios (HR) were performed using Cox proportional hazard model on age, sex, tumour site, histological tumour type, clinical TNM stage (cTNM), weight loss, Karnofsky performance status, C-reactive protein concentration, Edinburgh Clinical Risk Score mGPS and treatment. Multivariate survival analysis, including all covariates that were significant on univariate analysis, was performed using a stepwise backward procedure to derive a final model of the variables that had a significant independent relationship with survival. To remove a variable from the model, the corresponding P-value had to be greater than 0.10. Analysis was performed using SPSS software (SPSS Inc., Chicago, IL, USA).

7.3 Results

The characteristics of patients, undergoing staging for gastro-oesophageal cancer are shown in Table 7.2. The majority of patients were male, greater than 65 years, had adenocarcinomas and had clinical TNM stage (cTNM) III disease. Thirty eight patients underwent surgery with curative intent, 14 patients received radical chemo-radiotherapy, 91 patients received chemo/radiotherapy, 35 patients were treated with laser, 5 underwent palliative by-pass surgery and 34 patients underwent stenting or received palliative care only. One hundred and ten patients had an elevated C-reactive protein concentration (>10mg/l). Of the 38 patients with hypo-albuminaemia, 32 (84%) had an elevated C-reactive protein concentration (>10mg/l).

During the follow-up period 188 (87%) patients died; 178 of their disease. The minimum follow-up was 46 months and the median follow-up of the survivors was 65 months. On univariate analysis, age ($p<0.05$), tumour site ($P<0.01$), cTNM stage ($p<0.001$), weight loss ($p<0.01$), C-reactive protein concentration >5mg/l ($p<0.001$), ECRS ($p<0.001$), mGPS ($p<0.001$) and treatment ($p<0.001$), were significantly associated with cancer specific survival (Table 7.2).

On multivariate survival analysis of the significant factors, excluding treatment; age (HR 1.41, 95% CI 1.17-1.69, $p< 0.001$), tumour position (HR 1.49, 95% CI 1.10-2.01, $p= 0.010$), cTNM stage (HR 1.90, 95% CI 1.59-2.28, $p< 0.001$) and mGPS (HR 2.07, 95%CI 1.67-2.58, $p<0.001$), were independently associated with cancer specific survival (Table 7.3).

When treatment was included in the multivariate analysis, only cTNM stage (HR 1.84, 95% CI 1.56-2.17, $p< 0.001$), treatment (HR 2.12, 95% CI 1.73-2.60, $p< 0.001$) and mGPS (HR 1.67, 95% CI 1.35-2.07, $p< 0.001$) were independently associated with cancer specific survival (Table 7.3).

When those patients who underwent surgery were tested independently (n=38) to establish prognostic variables, on univariate analysis only C-reactive protein <5mg/l ($p<0.01$) and mGPS ($p<0.01$) were associated with cancer specific survival. On multivariate analysis, only the mGPS was significantly associated with cancer specific survival HR 4.34, 95%CI 1.44-13.13, $p=0.009$).

Patients with clinical stage III disease are the most challenging group in which to allocate the treatment, from which they are most likely to benefit. Figure 7.1 demonstrates how the mGPS can be used to provide additional prognostic information to aid decision making, along with clinical stage (HR 1.89, 95% CI 1.17-3.06, $p= 0.01$).

Figures 7.2-7.3 demonstrate the relationship between cTNM stage and survival, in patients with an mGPS of 0 and 1 respectively.

The relationship between the patient clinical characteristics and the mGPS is shown in Table 7.4. An elevated mGPS was associated with advanced cTNM stage ($p< 0.001$), poor performance status ($p<0.05$), an elevated ECRS ($p< 0.001$) and more conservative treatment ($p< 0.001$).

7.4 Discussion

In the present study of a comparison of pre-treatment clinical prognostic factors in patients with gastro-oesophageal cancer, only clinical TNM stage, treatment and the mGPS were shown to have independent prognostic significance. These results suggest that the systemic inflammatory response, as evidenced by the mGPS, is the most important patient related factor in determining outcome in patients with gastro-oesophageal cancer. Therefore, a measure of the systemic inflammatory response, in particular the mGPS, should be included in the pre-treatment assessment of these patients, and subsequent discussion at a multi-disciplinary team meeting.

In the present study C reactive protein and albumin concentrations were measured at the time of diagnosis, prior to staging laparoscopy. Serial measurements were not performed and it is unclear whether longitudinal measurement of the mGPS throughout treatment, would have added additional prognostic information. However, this may be particularly relevant in patients selected for neo-adjuvant treatment.

In the present study 18% of patients underwent resection. This may appear low compared with the resection rate in other countries, however, in the UK the majority of

patients with gastro-oesophageal cancer present with advanced, inoperable disease. Moreover in recent years there has been a decrease in the resection rate for gastric and oesophageal cancer with the recognition that although the resection rate was approximately 40% only 60% of operations were considered to be curative by the surgeon [ISD Scotland, 2005]. With the advent of EUS and high resolution CT in more recent years, accurate clinical staging has improved and the percentage of patients selected for potentially curative surgery has therefore decreased.

In the present study the aim was to compare pre-treatment prognostic variables which may useful in informing treatment decisions and therefore clinical TNM (cTNM) staging was used in all patients. This reflects the situation faced by clinicians at multidisciplinary team meetings. Nevertheless, it has long been recognised that the level of concordance between pre-operative clinical stage and post-operative pathological stage is sub-optimal even with enhanced imaging techniques [Ziegler et al., 1993;Kelly et al., 2001;Blackshaw et al., 2003;Lightdale and Kulkarni, 2005]. In the present study the numbers of patients who underwent surgery and had pathological stage was small 38 (18%) and therefore it remains to be determined whether the mGPS improves the prediction of pathological TNM stage in patients with gastro-oesophageal cancer.

Similarly, the assessment of patient fitness by the amount of weight loss or performance status is known to be suboptimal. For example, there remains controversy about what weight loss (the amount of and over what period) significantly impacts on outcome [Morley et al., 2006;Fearon et al., 2006]. Also, differences in the assessment of performance status have been reported between oncologists, nurses and patients,

oncologists being the most optimistic in their assessment and patients the least [Ando M, 2001].

It is of note that the 2 year survival of the group receiving endoscopic/ symptomatic treatment and who had a mGPS of 0, was greater than the 2 year survival of patients receiving palliative chemo/radiotherapy who's mGPS was greater than 0. Thus, it would appear that according to survival, some patients may have received more aggressive treatment without necessarily benefiting them and conversely, some patients may have been denied more aggressive treatment, which may have prolonged their life.

In contrast to the mGPS, the ECRS comprises 4 variables, 2 of which are subjective; performance status and weight loss. These two subjective variables account for almost half of the possible risk score and in the present study did not retain independent significance when compared with the mGPS. Although both scores have incorporated C-reactive protein, in the ECRS C-reactive protein can account for a score of 20 out of a possible 202 (10%). In contrast, C-reactive protein can account for a score of 1 out of a possible 2 (50%). In addition, in the present study the C reactive protein threshold of >5 mg/l did not retain independent significance when compared with the mGPS.

Therefore, the mGPS offers a simple to perform, objective and well standardised pre-treatment assessment to guide treatment. For example, since an elevated pre-treatment mGPS identifies patients at high risk of dying of their disease, they should be offered low morbidity treatment tailored to symptomatic control. Indeed, recent evidence from surgical and chemoradiotherapy studies are consistent with this approach [Kobayashi et al., 2008;Ikeda et al., 2003]. In the present study, it would appear that in those patients with evidence of an elevated systemic inflammatory response, clinical

stage performs less well in predicting cancer specific survival (figures 7.2-7.3) It is important to note however, that there are relatively few patients in this cohort with a mGPS of 2 and clinical stage I-III disease and therefore some caution is necessary in interpreting results in this sub-group of patients.

In summary, the pre-treatment measurement of the mGPS improves clinical staging in patients with gastro-oesophageal cancer. Therefore, it is likely to aid clinical decision making for these difficult to treat patients.

Table 7.1. Prognostic scoring systems in patients with gastro-oesophageal cancer.

Edinburgh Clinical Risk Score (ECRS)	Score	modified Glasgow Prognostic Score (mGPS)	Score
CRP < 5mg/l CRP > 5mg/l	0 20	CRP <10mg/l	0
Rate of weight loss <2.75 (% per month) >2.75 (% per month)	 0 20	CRP >10 mg/L	1
Karnofsky Score 80-100 60-70 <60	 0 32 68	CRP >10 mg/L Albumin <35g/l	2
Clinical stage (cTNM) I II III IV	 0 30 46 94		

Table 7.2. Pre-treatment clinical characteristics and cancer specific survival rates of patients with gastro-oesophageal cancer: Univariate survival analysis

		Patients n= 217 (%)	2 year survival rate % (SE)	3 year survival rate % (SE)	P-value (log rank)
Age	≤65 years	87 (40)	40 (5)	29 (5)	
	65-74years	53 (24)	57 (7)	32 (6)	
	≥75 years	77 (36)	33 (5)	12 (4)	0.017
Sex	male	49 (69)	43 (4)	24 (4)	
	Female	68 (31)	35 (6)	21 (5)	0.546
Site	oesophageal	121 (56)	45 (5)	26 (4)	
	Gastric	96 (44)	35 (5)	20 (4)	0.057
Type	adenocarcinoma	160 (74)	41 (4)	23 (3)	
	Squamous	57 (26)	39 (7)	24 (6)	0.796
Edinburgh clinical risk score					
Clinical TNM Stage	I	29 (13)	75 (8)	54 (9)	
	II	31 (14)	70 (8)	57 (9)	
	III	60 (28)	46 (6)	24 (6)	
	IV	97 (45)	17 (4)	3 (2)	<0.001
Weight loss	No	83 (38)	52 (6)	34 (5)	
	Yes	134 (62)	33 (4)	16 (3)	0.003
Karnofsky PS	80-100	203 (93)	39 (3)	24 (3)	
	60-70	12 (6)	58 (14)	22 (12)	
	<60	2 (1)	50 (35)	0 (0)	0.978
C-reactive protein	≤5mg/l	86 (40)	64 (5)	44 (5)	
	>5mg/l	131 (60)	25 (4)	10 (3)	<0.001
Edinburgh clinical risk score (tertiles)		58 (27)	79 (5)	59 (7)	
		102 (47)	32 (5)	14 (3)	
		57 (26)	16 (5)	3 (3)	<0.001
mGPS (0/ 1/ 2)		107 (49)	63 (5)	42 (5)	
		78 (36)	21 (5)	5 (3)	
		32 (15)	11 (6)	7 (5)	<0.001
Treatment					
Surgery		38 (18)	87 (6)	73 (7)	
Chemoradiotherapy with curative intent		14 (6)	64 (13)	50 (13)	
Palliative chemotherapy / radiotherapy		91 (42)	33 (5)	11 (3)	
Stent/dilatation/laser/by-pass/ symptomatic		74 (34)	21 (5)	7 (3)	<0.001

Table 7.3. Pre-treatment clinical characteristics and cancer specific survival of patients with gastro-oesophageal cancer:

Multivariate survival analysis	Patients	Survival	P-value
excluding treatment	n= 217	HR (95% CI)	
Age (≤65/ 65-74/ ≥75 years)	87/ 53/ 77	1.41 (1.17- 1.69)	<0.001
Site (oesophageal/ gastric)	121/ 96	1.49 (1.10- 2.01)	0.010
Clinical TNM Stage (I/ II/ III/ IV)	29/ 31/ 60/ 97	1.90 (1.59- 2.28)	<0.001
Weight loss (no/ yes)	83/ 134	1.32(0.95- 1.82)	0.098
C-reactive protein (≤5/ >5mg/l)	86/ 131	1.07 (0.68- 1.67)	0.777
mGPS (0/ 1/ 2)	107/ 78/ 32	2.07 (1.67- 2.58)	<0.001
Multivariate survival analysis			
Including treatment			
Age (≤65/ 65-74/ ≥75 years)	87/ 53/ 77	1.08 (0.89- 1.32)	0.430
Site (oesophageal/ gastric)	121/ 96	1.15 (0.84- 1.58)	0.387
Clinical TNM Stage (I/ II/ III/ IV)	29/ 31/ 60/ 97	1.84 (1.56- 2.17)	<0.001
Weight loss (no/ yes)	83/ 134	1.21(0.87- 1.68)	0.263
mGPS (0/ 1/ 2)	107/ 78/ 32	1.67 (1.35- 2.07)	<0.001
Treatment (Surgery/ Chemoradiotherapy with curative intent/ Palliative chemotherapy / radiotherapy/ Stent,dilatation, laser, by-pass, symptomatic)	38/ 14/ 91/ 74	2.12 (1.73- 2.60)	<0.001

Table 7.4. Relationship between clinical characteristics and the mGPS

	mGPS 0 (n= 107)	mGPS 1 (n=78)	mGPS 2 (n=32)	P value
Age (≤65 / 65-74/ ≥75 years)	43/ 28/36	36/ 15/ 27	8/ 10/ 14	0.302
Sex (male/ female)	74/ 33	52/ 26	23/ 9	0.920
Site (oesophageal/ gastric)	63/ 44	45/ 33	13/ 19	0.122
Type (adenocarcinoma/ squamous)	83/ 24	53/ 25	24/ 8	0.430
cTNM Stage (I/ II/ III/ IV)	22/ 22/ 35/ 28	4/ 6/21/ 47	3/3/4/ 22	<0.001
Weight loss (no/ yes)	49/ 58	21/ 57	13/ 19	0.158
Karnofsky PS (80-100/ 60-70/ <60)	103/ 3/ 1	74/ 4/ 0	26/ 5/ 1	0.018
ECRS (tertiles)	48/ 54/ 5	7/ 35/ 36	3/13/ 16	<0.001
Treatment				
Surgery	36	2	0	
Chemoradiotherapy with curative intent	9	5	0	
Palliative chemotherapy / radiotherapy	35	44	12	
Stent/dilatation/laser/by-pass/ Symptomatic	27	27	20	<0.001
2 year survival rate % (SE)				
Surgery	77 (7)	0 (0)		
Chemoradiotherapy with curative intent	56 (17)	40 (22)		
Palliative chemotherapy / radiotherapy	21 (7)	5 (3)	13 (10)	
Stent/dilatation/laser/by-pass/ Symptomatic	16 (7)	0 (0)	5 (5)	

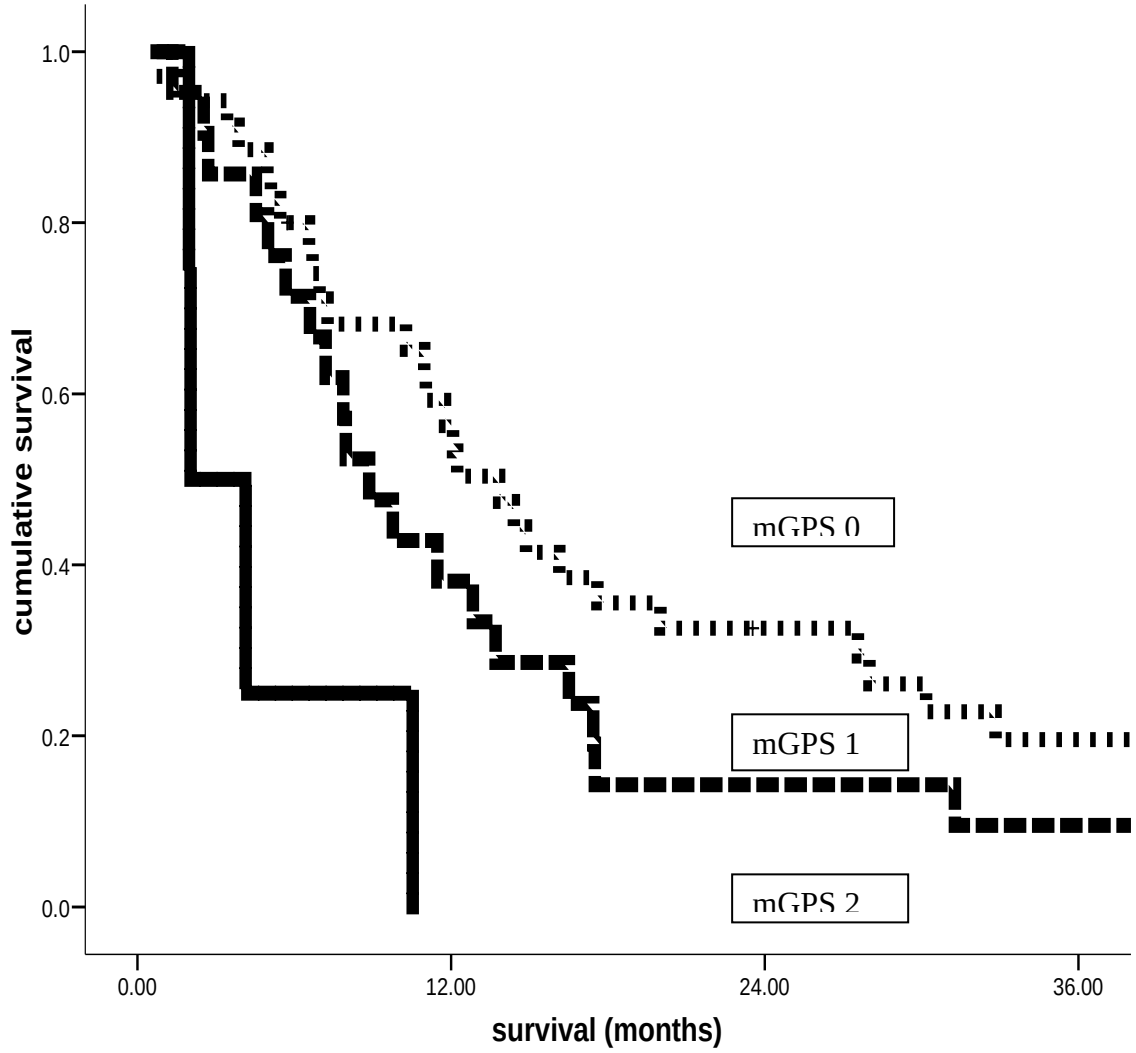


Figure 7.1. The relationship between the mGPS (0/ 1/ 2 from top to bottom) and survival in patients with cTNM stage III gastro-oesophageal cancer (Kaplan Meier log rank p<0.01).

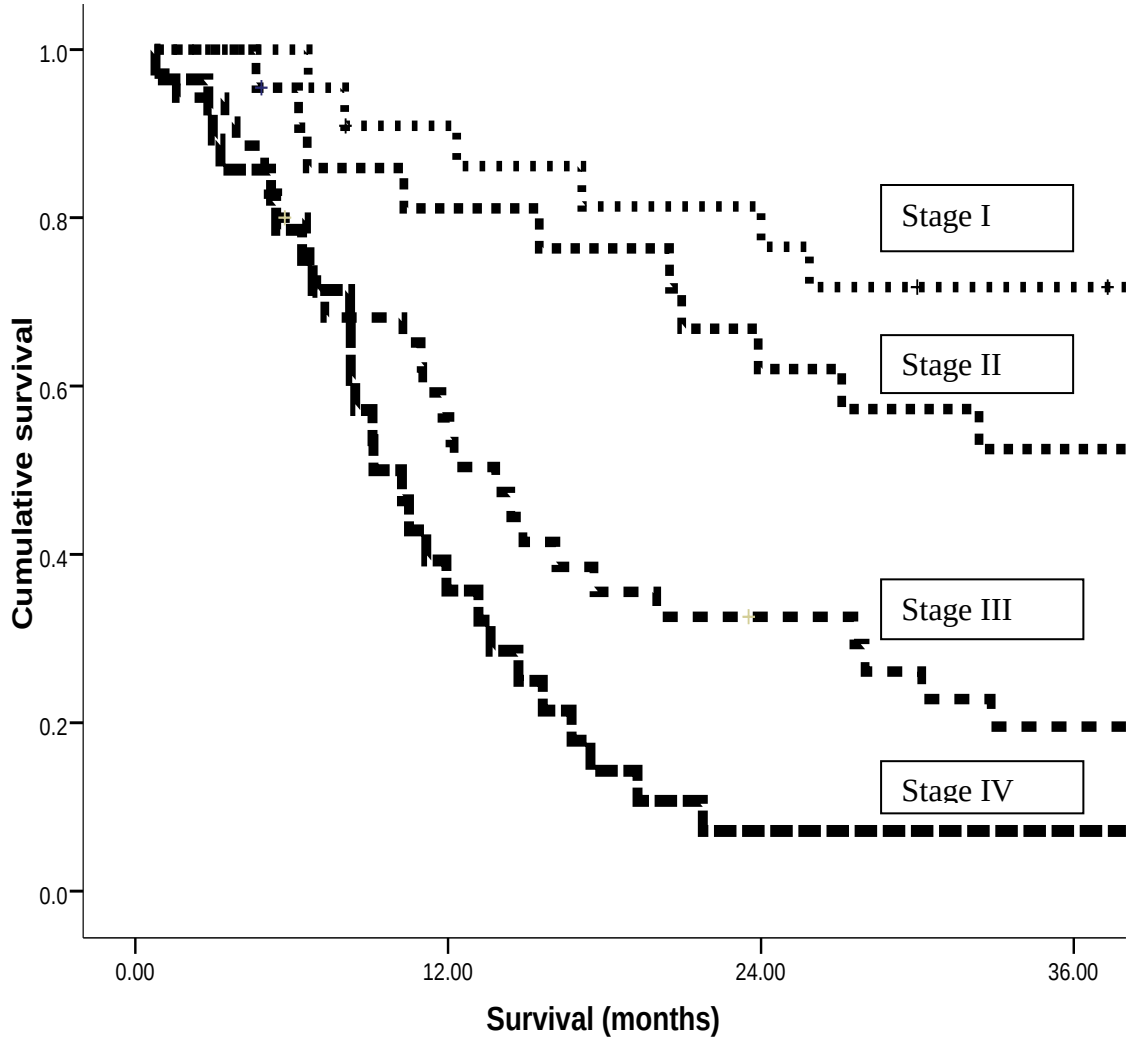


Figure 7.2. The relationship between the cTNM stage (I/ II/ III/ IV from top to bottom) and survival in patients with gastro-oesophageal cancer and a mGPS score 0 (Kaplan Meier log rank p<0.001).

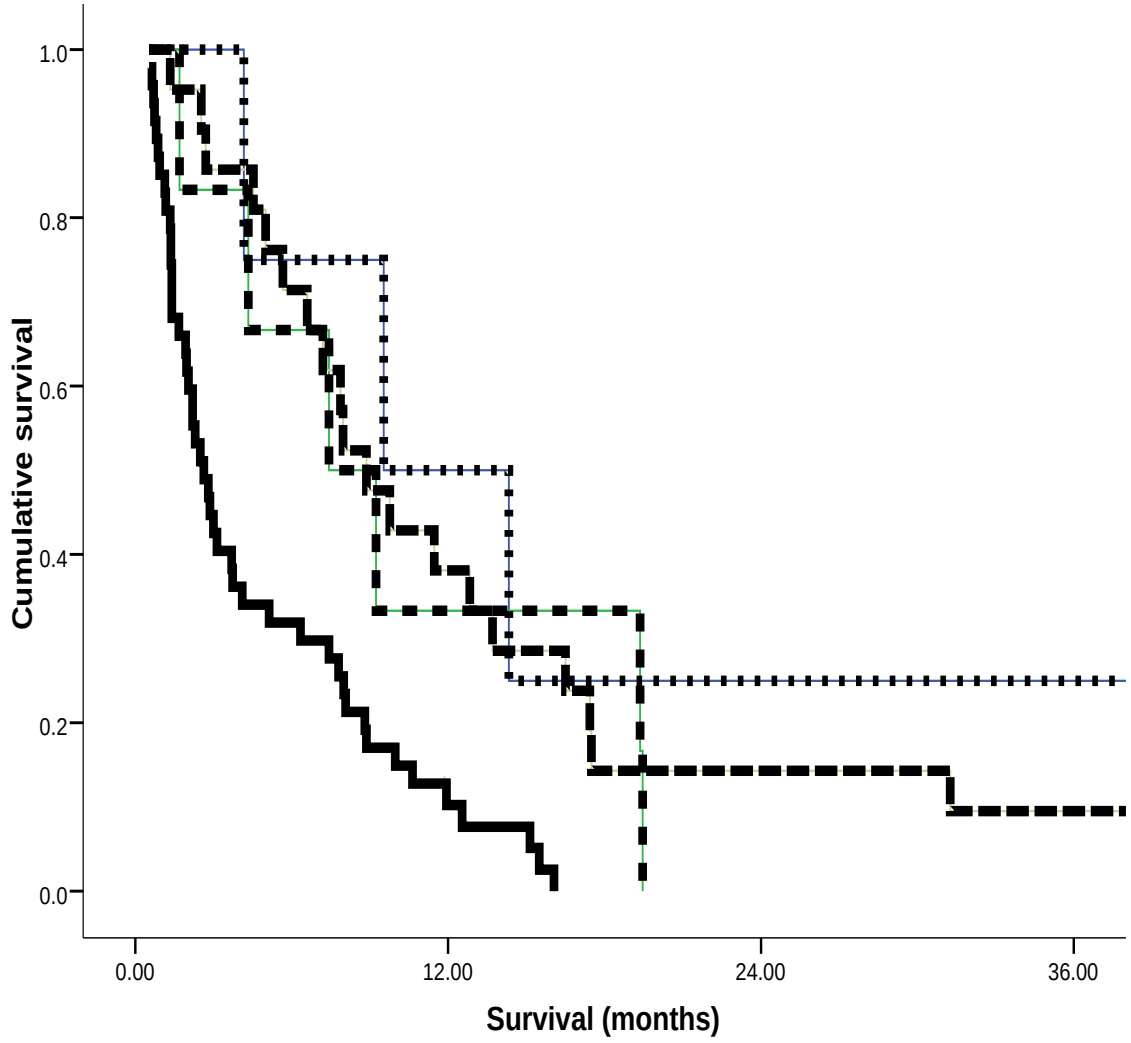


Figure 7.3. The relationship between the cTNM stage (I/ II/ III/ IV from top to bottom) and survival in patients with gastro-oesophageal cancer and a mGPS score 1 (Kaplan Meier log rank p<0.001).

CHAPTER 8: DISCUSSION AND FUTURE WORK

The overall aim of the thesis was to examine the inter-relationships between local and systemic inflammatory responses and cancer specific survival, in patients with gastro-oesophageal cancer.

The results of the work presented in this thesis have demonstrated that, in particular, the presence of an elevated systemic inflammatory response predicts poor survival, independent of stage and treatment received, in patients with operable and inoperable gastro-oesophageal cancer. The mechanisms by which the systemic inflammatory response impacts on cancer specific survival is, however, still unclear.

There are a number of potential mechanisms;

It is possible that the presence of an elevated systemic inflammatory response may represent occult metastasis and therefore under-staging of patients. Since work began on this thesis, there has been an increase in the use of PET CT, in the staging of gastro-oesophageal cancer. Indeed, the use of PET CT has been shown to alter clinical stage and subsequent management decisions in approximately 20% of patients with oesophageal cancer [Gilles et al 2010, Williams et al 2009]. It remains to be seen if the increased diagnosis of metastatic disease by this modality (in patients that previously would have been deemed to have local, operable disease), is associated with the presence of a systemic inflammatory response. However, this theory of occult metastasis is unlikely to explain the ability of the systemic inflammatory response (as evidenced by the mGPS) to consistently and independently predict poor cancer survival

in a number of tumour types and at different stages of disease [McMillan, 2009;Roxburgh and McMillan, 2010]. From these reports and the results of the present study, it is more likely that the presence of a systemic inflammatory response enhances the malignant potential of the tumour.

In chapter 3, it was of interest that a local low grade inflammatory infiltrate was associated with, independent of tumour staging, poorer cancer specific survival in patients with gastro-oesophageal cancer. Also, that low grade Klintrup criteria was also associated with a greater nodal burden. These results are consistent with those previously observed in relatively large studies of patients undergoing potentially curative resection for colorectal cancer [Klintrup et al., 2005;Roxburgh et al., 2009b;Roxburgh et al., 2009a]. Therefore, it was of interest that Klintrup criteria and Ki-67 labelling index were not associated. This might suggest that the local immune response is not stimulated directly by increased tumour proliferation and may be a more passive response to production of local, pro-inflammatory cytokines. Alternatively, as suggested above, that there may be unknown confounding factors associated with the present analysis of Ki-67 labelling index in gastro-oesophageal cancer.

Nevertheless, the results of the present study are consistent with the concept that a high-grade local immune response represents an effective host cellular immune response preventing further tumour dissemination and progression. Furthermore, the fact that the Klintrup score had superior prognostic value to that of tumour macrophage infiltrate is also consistent with the concept that the density and location of a variety of immune cells, and not an individual immune cell type, are important independent determinants of cancer-specific survival in patients with gastro-oesophageal cancer. Also, it would suggest that other immune cell-types are important in determining

tumour progression in these patients. Further detailed analysis of mediators of the local and systemic inflammatory responses such as the interleukins e.g. IL-4, IL-6 and IL-10 and chemokines e.g. MCP-1, MIP-1 and IL-8 would be warranted to explain how these local and systemic inflammatory responses are linked.

Another potential mechanism linking the systemic inflammatory response to malignant potential is the inflammation driven process of angiogenesis/ vascular invasion and its associated dissemination of the tumour at an early stage of disease. Examining the relationship between angiogenesis/ vascular invasion, the local and systemic inflammatory responses and survival would be an important area for future work. In the present thesis tumour macrophage infiltration, although reported to be linked to angiogenesis/ vascular invasion [Murri et al., 2008] was not associated with local or systemic inflammatory responses and did not predict cancer specific survival (Chapter 3). Further detailed analysis of the relationship between local and systemic inflammatory responses and angiogenesis/ vascular invasion is warranted to investigate this potential mechanism.

At the time of this thesis, the treatment algorithm for patients with operable disease did not routinely include neo-adjuvant chemotherapy. However, as a result of the MAGIC trial, patients are now routinely treated with neoadjuvant chemotherapy [Cunningham et al., 2006]. Although this enabled the analysis of tumour proliferation, macrophage and inflammatory infiltrate and pathological factors in “native” tumours we were unable to examine the relationship between the systemic inflammatory response and response to neoadjuvant chemotherapy. Nevertheless, it was of interest that, in chapter 5, the presence of an elevated GPS in patients undergoing palliative chemotherapy was associated with poorer survival and the need for dose reduction.

These results are consistent with the recent report that the GPS predicts poor survival in patients undergoing neoadjuvant chemo-radiotherapy for oesophageal squamous cancer [Kobayashi et al., 2008]. It would therefore be important for future work to assess the relationship between the systemic inflammatory response, tolerance and response to neo-adjuvant chemotherapy and survival in patients with oesophageal and gastric adenocarcinoma.

As discussed in chapter 7, we believe that the mGPS should now be incorporated into staging of patients and therefore treatment allocation. The clinical utility of measures of the systemic inflammatory response (such as the mGPS) is an important area for further study. Whether its value will be greater in the initial staging of patients or in guiding the use anti-inflammatory treatment, remains to be determined. Indeed, an area not addressed in the thesis is whether or not the systemic inflammatory response (as evidenced by the mGPS) can be modified. An important area for future work would therefore be to assess whether treatment with anti-inflammatory agents can down regulate the systemic inflammatory response and whether such anti-inflammatory treatment can improve long term survival for patients with operable and inoperable gastro-oesophageal cancer. Finally, it remains to be seen whether the mGPS is of value in monitoring such a process.

In conclusion, measurement of the systemic inflammatory response (as evidenced by the mGPS) provides additional prognostic information in patients with gastro-oesophageal cancer, it can improve clinical staging and help predict patients less likely to benefit from high morbidity treatments. Furthermore, it is an objective measure which is well standardised and easily reproducible and can be readily included in the clinical staging of all patients with gastro-oesophageal cancer.

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APPENDIX 1: DATABASE FOR CHAPTER 2:

AN ELEVATED C-REACTIVE PROTEIN CONCENTRATION, PRIOR TO SURGERY, PREDICTS POOR CANCER SPECIFIC SURVIVAL IN PATIENTS UNDERGOING RESECTION FOR GASTRO-OESOPHAGEAL CANCER

Patient	m0f1	age	agecd	Dateop	site	positcd	histolog	typecd	T	n	m	tnmstcd	posnodes	lymphcd
1	0.00	63	0.00	18-Apr-2001	o	0.00	squam	1.00	1	0.00	0	1.00	0.00	0.00
2	0.00	77	2.00	01-Sep-1996	g	1.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
3	1.00	34	0.00	16-Jul-1997	G	1.00	AD	0.00	3	1.00	0	3.00	3.00	1.00
4	0.00	73	1.00	08-Jun-1998	o	0.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
5	0.00	72	1.00	21-Oct-1998	g	1.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
6	1.00	73	1.00	28-Oct-1998	o	0.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
7	0.00	59	0.00	29-Mar-1999	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
8	0.00	51	0.00	07-Apr-1999	o	0.00	squam	1.00	3	1.00	0	3.00	7.00	1.00
9	0.00	66	1.00	05-Jul-1999	g	1.00	adeno	0.00	3	0.00	0	2.00	2.00	1.00
10	1.00	58	0.00	16-Jul-1999	o	0.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
11	0.00	49	0.00	09-Aug-1999	o	0.00	squam	1.00	2	1.00	0	2.00	4.00	1.00
12	1.00	77	2.00	23-Aug-1999	o	0.00	squam	1.00	3	1.00	0	3.00	5.00	1.00
13	1.00	67	1.00	28-Sep-1999	o	0.00	squam	1.00	2	1.00	0	2.00	1.00	1.00
14	0.00	59	0.00	03-Nov-1999	o	0.00	adeno	0.00	1	0.00	0	1.00	5.00	1.00
15	0.00	71	1.00	24-Nov-1999	o	0.00	squam	1.00	2	0.00	0	2.00	0.00	0.00
16	0.00	48	0.00	01-Dec-1999	g	1.00	adeno	0.00	2	0.00	0	1.00	1.00	1.00
17	0.00	74	1.00	26-Jan-2000	o	0.00	squam	1.00	1	0.00	0	1.00	0.00	0.00
18	1.00	69	1.00	14-Feb-2000	o	0.00	squam	1.00	1	0.00	0	1.00	0.00	0.00
19	0.00	72	1.00	16-Feb-2000	o	0.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
20	1.00	61	0.00	01-Mar-2000	o	0.00	squam	1.00	2	1.00	0	2.00	2.00	1.00
21	1.00	55	0.00	15-Mar-2000	o	0.00	adeno	0.00	2	0.00	0	2.00	0.00	0.00
22	0.00	61	0.00	22-May-2000	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
23	1.00	59	0.00	29-May-2000	g	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
24	0.00	47	0.00	30-Aug-2000	o	0.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
25	0.00	75	2.00	08-Nov-2000	G	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
26	0.00	61	0.00	20-Dec-2000	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
27	0.00	64	0.00	10-Jan-2001	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
28	1.00	72	1.00	11-Apr-2001	G	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00

Patient	m0f1	age	agecd	dateop	site	positcd	histolog	typecd	t	n	m	tnmstcd	posnodes	Lymphcd
29	0.00	71	1.00	16-May-2001	g	1.00	adeno	0.00	1	0.00	0	1.00	1.00	1.00
30	0.00	52	0.00	11-Jul-2001	G	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
31	1.00	52	0.00	29-Aug-2001	o	0.00	squam	1.00	1	0.00	0	1.00	1.00	1.00
32	1.00	41	0.00	14-Nov-2001	g	1.00	adeno	0.00	3	0.00	0	2.00	7.00	1.00
33	0.00	72	1.00	09-Jan-2002	g	1.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
34	0.00	64	0.00	06-Mar-2002	o	0.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
35	0.00	70	1.00	17-Apr-2002	g	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
36	1.00	73	1.00	24-Apr-2002	o	0.00	adeno	0.00	2	0.00	0	2.00	0.00	0.00
37	0.00	59	0.00	29-May-2002	g	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
38	1.00	72	1.00	29-May-2002	g	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0.00
39	0.00	58	0.00	25-Jul-2002	o	0.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
40	0.00	68	1.00	02-Oct-2002	o	0.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
41	0.00	70	1.00	01-Nov-2002	g	1.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
42	0.00	61	0.00	04-Dec-2002	o	0.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
43	0.00	59	0.00	17-Mar-2003	o	0.00	squam	1.00	3	0.00	0	2.00	0.00	0.00
44	1.00	65	1.00	08-May-2003	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
45	0.00	76	2.00	11-Jun-2003	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
46	1.00	71	1.00	25-Jun-2003	o	0.00	squam	1.00	3	1.00	0	3.00	1.00	1.00
47	0.00	55	0.00	10-Sep-2003	o	0.00	adeno	0.00	3	1.00	0	3.00	1.00	1.00
48	1.00	80	2.00	11-Feb-2004	o	0.00	adeno	0.00	3	0.00	0	2.00	0.00	0.00
49	1.00	58	0.00	21-Apr-2004	o	0.00	squam	1.00	1	0.00	0	1.00	0.00	0.00
50	0.00	58	0.00	28-Apr-2004	o	0.00	squam	1.00	2	1.00	0	2.00	1.00	1.00
51	0.00	52	0.00	10-May-2004	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
52	1.00	71	1.00	12-May-2004	o	0.00	squam	1.00	1	0.00	0	1.00	0.00	0.00
53	1.00	46	0.00	17-Jun-2004	o	0.00	squam	1.00	3	1.00	0	3.00	1.00	1.00
54	0.00	68	1.00	30-Jun-2004	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
55	0.00	42	0.00	18-Aug-2004	g	1.00	adeno	0.00	1	0.00	0	1.00	0.00	0.00
56	0.00	51	0.00	22-Dec-2004	o	0.00	squam	1.00	3	1.00	0	3.00	8.00	1.00
57	0.00	56	0.00	07-Jan-1998	g	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1.00

Patient	m0f1	age	agecd	dateop	site	positcd	histolog	typecd	t	n	m	tnmstcd	posnodes	Lymphcd
58	1.00	59	0.00	14-Jan-2004	g	1.00	adeno	0.00	2	1.00	1	4.00	6.00	1.00
59	0.00	56	0.00	15-Jan-2003	o	0.00	adeno	0.00	3	1.00	0	3.00	4.00	1.00
60	0.00	67	1.00	24-Jan-2001	g	1.00	adeno	0.00	2	1.00	0	2.00	4.00	1.00
61	0.00	69	1.00	04-Feb-2004	o	0.00	adeno	0.00	2	1.00	0	2.00	4.00	1
62	0.00	52	0.00	11-Feb-2002	o	0.00	adeno	0.00	3	1.00	0	3.00	5.00	1
63	0.00	60	0.00	09-Mar-1998	o	0.00	adeno	0.00	3	1.00	0	3.00	7.00	1
64	0.00	68	1.00	03-Mar-2003	o	0.00	adeno	0.00	2	1.00	0	2.00	5.00	1
65	1.00	73	1.00	26-Mar-2001	G	1.00	adeno	0.00	3	2.00	1	4.00	7.00	1
66	1.00	77	2.00	24-Mar-2003	G	1.00	adeno	0.00	3	2.00	0	3.00	16.00	1
67	0.00	68	1.00	20-Mar-2002	g	1.00	adeno	0.00	3	1.00	0	3.00	5.00	1
68	0.00	76	2.00	03-May-2000	g	1.00	adeno	0.00	3	1.00	0	3.00	5.00	1
69	1.00	63	0.00	06-May-1999	g	1.00	adeno	0.00	2	1.00	0	2.00	6.00	1
70	0.00	65	1.00	09-May-2001	o	0.00	adeno	0.00	3	1.00	0	3.00	7.00	1
71	0.00	65	1.00	17-May-2000	o	0.00	adeno	0.00	3	1.00	0	3.00	6.00	1
72	1.00	67	1.00	01-Jun-2000	g	1.00	adeno	0.00	3	2.00	0	3.00	9.00	1
73	0.00	62	0.00	21-May-2003	o	0.00	adeno	0.00	4	1.00	0	4.00	1.00	1
74	0.00	66	1.00	11-Jun-2001	G	1.00	adeno	0.00	2	1.00	0	2.00	3.00	1
75	1.00	77	2.00	17-May-2004	g	1.00	adeno	0.00	3	2.00	0	3.00	10.00	1
76	0.00	60	0.00	30-Jun-1997	g	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1
77	0.00	56	0.00	21-Jun-2000	g	1.00	adeno	0.00	3	2.00	0	3.00	8.00	1
78	1.00	66	1.00	22-Jul-1996	g	1.00	adeno	0.00	3	1.00	0	3.00	5.00	1
79	0.00	68	1.00	03-Jun-2002	o	0.00	adeno	0.00	2	2.00	0	3.00	8.00	1
80	0.00	46	0.00	26-Jun-2003	o	0.00	adeno	0.00	2	1.00	0	2.00	1.00	1
81	0.00	68	1.00	24-Jun-2002	g	1.00	adeno	0.00	2	1.00	0	2.00	1.00	1
82	0.00	63	0.00	19-Aug-1996	o	0.00	adeno	0.00	3	1.00	0	3.00	5.00	1
83	0.00	62	0.00	26-Jun-2002	o	0.00	adeno	0.00	3	1.00	0	3.00	4.00	1
84	0.00	44	0.00	09-Aug-2000	o	0.00	adeno	0.00	3	1.00	0	3.00	0.00	0
85	1.00	48	0.00	03-Jul-2002	G	1.00	adeno	0.00	2	1.00	0	2.00	2.00	1
86	1.00	88	2.00	12-Aug-1999	g	1.00	adeno	0.00	2	1.00	1	4.00	3.00	1

Patient	m0f1	age	agecd	dateop	site	positcd	histolog	typecd	t	n	m	tnmstcd	posnodes	Lymphcd
87	0.00	56	0.00	16-Aug-2000	o	0.00	adeno	0.00	3	1.00	0	3.00	3.00	1
88	0.00	41	0.00	17-Aug-2000	G	1.00	adeno	0.00	3	1.00	0	3.00	5.00	1
89	0.00	66	1.00	04-Aug-2003	o	0.00	adeno	0.00	3	1.00	0	3.00	2.00	1
90	0.00	75	2.00	21-Aug-2000	o	0.00	adeno	0.00	3	1.00	0	3.00	4.00	1
91	1.00	38	0.00	13-Aug-2003	0	0.00	adeno	0.00	3	1.00	0	3.00	10.00	1
92	0.00	70	1.00	20-Aug-2003	g	1.00	adeno	0.00	3	1.00	0	3.00	1.00	1
93	0.00	73	1.00	01-Aug-2002	o	0.00	adeno	0.00	3	1.00	0	3.00	1.00	1
94	0.00	59	0.00	27-Aug-2003	o	0.00	adeno	0.00	3	1.00	0	3.00	7.00	1
95	0.00	51	0.00	16-Sep-1998	g	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1
96	1.00	73	1.00	14-Aug-2002	o	0.00	adeno	0.00	2	1.00	0	2.00	2.00	1
97	0.00	74	1.00	10-Sep-2003	g	1.00	adeno	0.00	3	2.00	0	3.00	9.00	1
98	0.00	73	1.00	13-Oct-1999	g	1.00	adeno	0.00	3	2.00	0	3.00	9.00	1
99	0.00	75	2.00	03-Sep-2002	g	1.00	adeno	0.00	3	1.00	0	3.00	4.00	1
100	1.00	59	0.00	23-Oct-2000	o	0.00	adeno	0.00	3	1.00	0	3.00	6.00	1
101	0.00	61	0.00	10-Nov-1999	o	0.00	adeno	0.00	3	1.00	0	2.00	1.00	1
102	0.00	59	0.00	05-Dec-2001	G	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1
103	0.00	60	0.00	06-Oct-2004	g	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1
104	1.00	68	1.00	16-Jun-1997	G	1.00	ADE	0.00	3	1.00	0	3.00	2.00	1
105	0.00	60	0.00	14-Apr-1999	o	0.00	adeno	0.00	2	0.00	0	2.00	0.00	0
106	1.00	65	1.00	11-Oct-1999	o	0.00	squam	1.00	3	0.00	0	2.00	0.00	0
107	0.00	74	1.00	03-Apr-2000	o	0.00	adeno	0.00	2	0.00	0	2.00	0.00	0
108	0.00	54	0.00	05-Sep-2000	o	0.00	squam	1.00	3	0.00	0	2.00	0.00	0
109	0.00	60	0.00	06-Nov-2000	g	1.00	adeno	0.00	2	0.00	0	1.00	0.00	0
110	1.00	61	0.00	28-Nov-2001	o	0.00	squam	1.00	2	1.00	0	2.00	3.00	1
111	1.00	70	1.00	25-Mar-2003	o	0.00	adeno	0.00	3	0.00	0	2.00	0.00	0
112	0.00	34	0.00	22-Mar-2000	G	1.00	adeno	0.00	3	2.00	0	3.00	11.00	1
113	1.00	74	1.00	28-Apr-1997	g	1.00	adeno	0.00	3	1.00	0	3.00	1.00	1
114	0.00	58	0.00	03-May-2001	o	0.00	adeno	0.00	3	1.00	0	3.00	1.00	1
115	1.00	75	2.00	31-May-2001	g	1.00	adeno	0.00	3	1.00	0	3.00	4.00	1

Patient	m0f1	age	agecd	dateop	site	positcd	histolog	typecd	t	n	m	tnmstcd	posnodes	Lymphcd
116	1.00	65	1.00	09-Oct-1996	o/g	1.00	adeno	0.00	3	1.00	0	3.00	2.00	1
117	0.00	64	0.00	05-Sep-2002	G	1.00	adeno	0.00	2	1.00	0	2.00	2.00	1
118	1.00	78	2.00	11-Dec-1995	g	1.00	adeno	0.00	3	2.00	0	3.00	9.00	1
119	0.00	71	1.00	16-Nov-2000	g	1.00	adeno	0.00	2	2.00	0	3.00	29.00	1
120	0.00	68	1.00	31-Dec-1997	g	1.00	adeno	0.00	3	1.00	0	3.00	4.00	1

Patient	totalnod	nodratio	Ratiocd	r	a0c1n2	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	Albfincd
1	9.00	0.00	0.00	0.00	1.00	07-Dec-2001	7.77	0.00	5.00	0.00		
2	5.00	0.00	0.00	0.00	1.00	12-Jan-2001	53.13	0.00	5.00	0.00	41.00	0.00
3	27.00	0.11	1.00	0.00	0.00	28-Feb-2006	104.97	0.00	5.00	0.00	43.00	0.00
4	20.00	0.00	0.00	1.00	1.00	28-Jul-2002	50.37	0.00	5.00	0.00	36.00	0.00
5	10.00	0.00	0.00	0.00	1.00	29-Nov-2004	74.37	0.00	5.00	0.00	46.00	0.00
6	22.00	0.00	0.00	0.00	0.00	28-Feb-2006	89.33	0.00	5.00	0.00	43.00	0.00
7	17.00	0.00	0.00	0.00	0.00	28-Feb-2006	84.27	0.00	5.00	0.00	45.00	0.00
8	28.00	0.25	2.00	0.00	1.00	16-Nov-2001	31.80	0.00	5.00	0.00	41.00	0.00
9	14.00	0.14	1.00	0.00	1.00	14-Feb-2003	44.00	0.00	5.00	0.00	42.00	0.00
10	19.00	0.00	0.00	0.00	0.00	28-Feb-2006	80.63	0.00	5.00	0.00	43.00	0.00
11	16.00	0.25	2.00	0.00	1.00	29-Aug-2001	25.03	0.00	5.00	0.00	42.00	0.00
12	35.00	0.14	1.00	1.00	0.00	28-Feb-2006	79.37	0.00	5.00	0.00	43.00	0.00
13	13.00	0.08	1.00	0.00	1.00	09-Nov-1999	1.40	0.00	5.00	0.00	42.00	0.00
14	20.00	0.25	2.00	0.00	1.00	20-Oct-2000	11.73	0.00	5.00	0.00	44.00	0.00
15	10.00	0.00	0.00	0.00	0.00	28-Feb-2006	76.27	1.00	5.00	0.00	42.00	0.00
16	18.00	0.06	1.00	0.00	0.00	28-Feb-2006	76.03	0.00	5.00	0.00	41.00	0.00
17	34.00	0.00	0.00	0.00	0.00	28-Feb-2006	74.17	0.00	5.00	0.00	37.00	0.00
18	12.00	0.00	0.00	0.00	0.00	28-Feb-2006	73.53	1.00	7.00	0.00	45.00	0.00
19	16.00	0.00	0.00	0.00	0.00	28-Feb-2006	73.47	0.00	5.00	0.00	44.00	0.00
20	11.00	0.18	1.00	0.00	0.00	28-Feb-2006	73.00	0.00	5.00	0.00	44.00	0.00
21	14.00	0.00	0.00	0.00	0.00	28-Feb-2006	72.53	1.00	10.00	0.00	36.00	0.00
22	25.00	0.00	0.00	0.00	0.00	28-Feb-2006	70.27	0.00	5.00	0.00	43.00	0.00
23	16.00	0.00	0.00	0.00	0.00	28-Feb-2006	70.03	0.00	5.00	0.00	42.00	0.00
24	21.00	0.00	0.00	0.00	0.00	28-Feb-2006	66.93	0.00	5.00	0.00	43.00	0.00
25	23.00	0.00	0.00	0.00	0.00	28-Feb-2006	64.60	0.00	5.00	0.00	44.00	0.00
26	0.00	0.00	0.00		1.00	16-Dec-2003	36.37	1.00	9.00	0.00	40.00	0.00
27	17.00	0.00	0.00	0.00	0.00	28-Feb-2006	62.50	1.00	7.00	0.00	42.00	0.00
28	21.00	0.00	0.00	0.00	0.00	28-Feb-2006	59.47	1.00	8.00	0.00	44.00	0.00
29	30.00	0.03	1.00	0.00	0.00	28-Feb-2006	58.30	0.00	5.00	0.00	37.00	0.00

Patient	totalnod	nodratio	Ratiocd	r	a0c1n2	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd
30	0.00	0.00	0.00	0.00	1.00	31-Mar-2002	8.77	0.00	5.00	0.00	42.00	0.00
31	15.00	0.07	1.00	0.00	1.00	31-Mar-2002	7.13	0.00	5.00	0.00	43.00	0.00
32	20.00	0.35	2.00	0.00	1.00	08-Oct-2002	10.93	0.00	5.00	0.00	43.00	0.00
33	19.00	0.00	0.00	0.00	0.00	28-Feb-2006	50.37	0.00	5.00	0.00	41.00	0.00
34	33.00	0.00	0.00	0.00	0.00	28-Feb-2006	48.50	0.00	5.00	0.00	39.00	0.00
35	10.00	0.00	0.00	0.00	0.00	28-Feb-2006	47.10	0.00	5.00	0.00	43.00	0.00
36		0.00	0.00	0.00	0.00	28-Feb-2006	46.87	0.00	5.00	0.00	43.00	0.00
37	9.00	0.00	0.00	0.00	0.00	28-Feb-2006	45.70	0.00	5.00	0.00	42.00	0.00
38	22.00	0.00	0.00	0.00	0.00	28-Feb-2006	45.70	0.00	5.00	0.00	44.00	0.00
39	20.00	0.00	0.00	0.00	0.00	28-Feb-2006	43.80	0.00	5.00	0.00	47.00	0.00
40	34.00	0.00	0.00	0.00	0.00	28-Feb-2006	41.50	0.00	5.00	0.00	42.00	0.00
41	9.00	0.00	0.00	0.00	1.00	13-Jul-2005	32.83	0.00	5.00	0.00	39.00	0.00
42	8.00	0.00	0.00	0.00	0.00	28-Feb-2006	39.40	1.00	7.00	0.00	46.00	0.00
43	21.00	0.00	0.00	0.00	0.00	28-Feb-2006	35.97	0.00	5.00	0.00	45.00	0.00
44	16.00	0.00	0.00	0.00	1.00	18-Nov-2004	18.67	0.00	5.00	0.00	42.00	0.00
45	3.00	0.00	0.00	0.00	0.00	28-Feb-2006	33.10	0.00	5.00	0.00	41.00	0.00
46	18.00	0.06	1.00	1.00	0.00	28-Feb-2006	32.63	0.00	5.00	0.00	40.00	0.00
47	27.00	0.04	1.00	0.00	0.00	28-Feb-2006	30.07	0.00	5.00	0.00	37.00	0.00
48	13.00	0.00	0.00	0.00	0.00	28-Feb-2006	24.93	0.00	5.00	0.00	42.00	0.00
49	22.00	0.00	0.00	0.00	1.00	13-Sep-2004	4.83	0.00	5.00	0.00	42.00	0.00
50	14.00	0.07	1.00	0.00	0.00	28-Feb-2006	22.37	0.00	5.00	0.00	39.00	0.00
51	29.00	0.00	0.00	0.00	1.00	25-Nov-2004	6.63	0.00	5.00	0.00	42.00	0.00
52	27.00	0.00	0.00	0.00	0.00	28-Feb-2006	21.90	0.00	5.00	0.00	44.00	0.00
53	29.00	0.03	1.00	0.00	0.00	28-Feb-2006	20.70	1.00	8.00	0.00	36.00	0.00
54	8.00	0.00	0.00	0.00	0.00	28-Feb-2006	20.27	0.00	5.00	0.00	45.00	0.00
55	35.00	0.00	0.00	0.00	0.00	28-Feb-2006	18.63	0.00	5.00	0.00	46.00	0.00
56	37.00	0.22	2.00	1.00	1.00	10-Dec-2005	11.77	0.00	5.00	0.00	49.00	0.00
57	21.00	0.10	1.00	0.00	2.00	12-Feb-1998	1.20	0.00	5.00	0.00	38.00	0.00
58	18.00	0.33	2.00	1.00	1.00	06-Jun-2004	4.80	1.00	7.00	0.00	37.00	0.00

Patient	totalnod	nodratio	Ratiocd	r	a0c1n2	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd
59	33.00	0.12	1.00	1.00	0.00	28-Feb-2006	38.00	0.00	5.00	0.00	47.00	0.00
60	17.00	0.24	2.00	0.00	0.00	28-Feb-2006	62.03	0.00	5.00	0.00	41.00	0.00
61	32.00	0.13	1.00	0.00	1.00	10-Aug-2004	6.27	0.00	5.00	0.00	41.00	0.00
62	24.00	0.21	2.00	1.00	0.00	28-Feb-2006	49.27	0.00	5.00	0.00	42.00	0.00
63	40.00	0.18	1.00	1.00	1.00	24-Sep-2005	91.87	0.00	5.00	0.00	44.00	0.00
64	17.00	0.29	2.00	0.00	0.00	28-Feb-2006	36.43	0.00	5.00	0.00	43.00	0.00
65	16.00	0.44	2.00	1.00	1.00	26-Aug-2001	5.10	1.00	8.00	0.00	35.00	0.00
66	43.00	0.37	2.00	0.00	1.00	01-Sep-2003	5.37	0.00	5.00	0.00	41.00	0.00
67	15.00	0.33	2.00	0.00	1.00	22-Mar-2003	12.23	1.00	9.00	0.00	45.00	0.00
68	16.00	0.31	2.00	0.00	1.00	30-Apr-2001	12.07	0.00	5.00	0.00	40.00	0.00
69	17.00	0.35	2.00	0.00	0.00	28-Feb-2006	83.00	0.00	5.00	0.00	37.00	0.00
70	28.00	0.25	2.00	1.00	0.00	28-Feb-2006	58.53	0.00	5.00	0.00	40.00	0.00
71	39.00	0.15	1.00	1.00	1.00	16-Nov-2001	18.27	0.00	5.00	0.00	43.00	0.00
72	25.00	0.36	2.00	0.00	1.00	08-Feb-2001	8.40	0.00	5.00	0.00	39.00	0.00
73	34.00	0.03	1.00	1.00	0.00	28-Feb-2006	33.80	0.00	5.00	0.00	40.00	0.00
74	22.00	0.14	1.00	0.00	1.00	18-Aug-2002	14.43	0.00	5.00	0.00	43.00	0.00
75	39.00	0.26	2.00	0.00	0.00	28-Feb-2006	21.73	0.00	5.00	0.00	37.00	0.00
76	17.00	0.12	1.00	0.00	0.00	28-Feb-2006	105.50	0.00	5.00	0.00	43.00	0.00
77	37.00	0.22	2.00	0.00	1.00	01-Jan-2005	55.17	1.00	9.00	0.00	38.00	0.00
78	23.00	0.22	2.00	0.00	0.00	28-Feb-2006	116.93	0.00	5.00	0.00	43.00	0.00
79	15.00	0.53	2.00	0.00	1.00	13-Nov-2003	17.60	0.00	5.00	0.00	41.00	0.00
80	16.00	0.06	1.00	0.00	0.00	28-Feb-2006	32.60	0.00	5.00	0.00	48.00	0.00
81	27.00	0.04	1.00	0.00	0.00	28-Feb-2006	44.83	1.00	7.00	0.00	44.00	0.00
82	24.00	0.21	2.00	1.00	1.00	20-Feb-2003	79.20	1.00	9.00	0.00	43.00	0.00
83	13.00	0.31	2.00	0.00	1.00	10-Sep-2003	14.70	1.00	8.00	0.00	46.00	0.00
84	32.00	0.00	0.00	0.00	0.00	28-Feb-2006	67.63	0.00	5.00	0.00	46.00	0.00
85	14.00	0.14	1.00	0.00	0.00	28-Feb-2006	44.53	0.00	5.00	0.00	45.00	0.00
86	11.00	0.27	2.00	1.00	1.00	05-Aug-2000	11.97	0.00	5.00	0.00	36.00	0.00
87	35.00	0.09	1.00	0.00	0.00	28-Feb-2006	67.40	0.00	5.00	0.00	41.00	0.00

Patient	totalnod	nodratio	Ratiocd	r	a0c1n2	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd
88	35.00	0.14	1.00	0.00	0.00	28-Feb-2006	67.37	0.00	5.00	0.00	46.00	0.00
89	18.00	0.11	1.00	0.00	0.00	28-Feb-2006	31.30	0.00	5.00	0.00	43.00	0.00
90	30.00	0.13	1.00	0.00	1.00	04-Feb-2002	17.73	0.00	5.00	0.00	40.00	0.00
91	15.00	0.67	2.00	1.00	2.00	19-Jul-2005	23.53	0.00	5.00	0.00	38.00	0.00
92	22.00	0.05	1.00	0.00	1.00	25-Mar-2004	7.27	1.00	9.00	0.00	37.00	0.00
93	33.00	0.03	1.00	0.00	1.00	07-Jan-2005	29.67	0.00	5.00	0.00	44.00	0.00
94	19.00	0.37	2.00	0.00	1.00	18-Apr-2005	20.00	0.00	5.00	0.00	43.00	0.00
95	38.00	0.05	1.00	0.00	0.00	28-Feb-2006	90.73	0.00	5.00	0.00	44.00	0.00
96	19.00	0.11	1.00	0.00	1.00	06-Nov-2003	14.97	0.00	5.00	0.00	48.00	0.00
97	19.00	0.47	2.00	0.00	1.00	15-Dec-2005	27.57	0.00	5.00	0.00	39.00	0.00
98	32.00	0.28	2.00	0.00	1.00	14-Dec-2003	50.77	0.00	5.00	0.00	44.00	0.00
99	55.00	0.07	1.00	0.00	1.00	30-Jan-2004	17.13	0.00	5.00	0.00	41.00	0.00
100	26.00	0.23	2.00	0.00	1.00	22-Jun-2001	8.07	0.00	5.00	0.00	44.00	0.00
101	13.00	0.08	1.00	0.00	1.00	01-Aug-2002	33.17	1.00	7.00	0.00	42.00	0.00
102	20.00	0.10	1.00	0.00	0.00	28-Feb-2006	51.53	1.00	8.00	0.00	46.00	0.00
103	23.00	0.09	1.00	0.00	0.00	28-Feb-2006	17.00	0.00	5.00	0.00	41.00	0.00
104	25.00	0.08	1.00	0.00	1.00	08-Dec-1999	30.17	1.00	11.00	1.00	38.00	0.00
105	16.00	0.00	0.00	0.00	0.00	28-Feb-2006	83.73	0.00	5.00	0.00	31.00	1.00
106	7.00	0.00	0.00	0.00	1.00	22-Jun-2002	32.83	1.00	14.00	1.00	45.00	0.00
107	44.00	0.00	0.00	0.00	0.00	28-Feb-2006	71.90	1.00	11.00	1.00	37.00	0.00
108	17.00	0.00	0.00	0.00	1.00	22-Jul-2001	10.67	1.00	19.00	1.00	42.00	0.00
109	24.00	0.00	0.00	0.00	1.00	22-Sep-2001	10.67	1.00	36.00	1.00	37.00	0.00
110	26.00	0.12	1.00	0.00	1.00	14-Jul-2003	19.77	1.00	12.00	1.00	46.00	0.00
111	12.00	0.00	0.00	1.00	1.00	26-Oct-2004	19.37	1.00	19.00	1.00	44.00	0.00
112	15.00	0.73	2.00	0.00	1.00	04-Aug-2001	16.67	1.00	12.00	1.00	44.00	0.00
113	15.00	0.07	1.00	0.00	1.00	08-Oct-1999	29.77	1.00	21.00	1.00	36.00	0.00
114	13.00	0.08	1.00	1.00	1.00	06-Mar-2002	10.23	1.00	179.00	1.00	40.00	0.00
115	10.00	0.40	2.00	0.00	1.00	23-May-2002	11.90	0.00	5.00	0.00	34.00	1.00
116	20.00	0.10	1.00	0.00	1.00	18-Feb-1998	16.57	1.00	22.00	1.00	43.00	0.00

Patient	totalnod	nodratio	Ratiocd	r	a0c1n2	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd
117	19.00	0.11	1.00	0.00	1.00	18-Jun-2003	9.53	1.00	19.00	1.00	35.00	0.00
118	10.00	0.90	2.00	1.00	1.00	15-Aug-1997	20.43	1.00	14.00	1.00	38.00	0.00
119	34.00	0.85	2.00	0.00	1.00	27-Oct-2001	11.50	1.00	17.00	1.00	38.00	0.00
120	19.00	0.21	2.00	1.00	1.00	26-Mar-2000	27.20	1.00	15.00	1.00	40.00	0.00

Patient	wcc	wcccd	hb	hbcd	plts	pltscd	neut	lymph	lymper	lympercd	nlr	nlrcd
1	5.80	0.00	13.20	0.00	229.00	0.00	3.50	1.80	31.03	0.00	1.94	0.00
2	6.70	0.00	13.50	0.00	165.00	0.00	3.90	2.20	32.84	0.00	1.77	0.00
3	8.60	1.00	13.30	0.00	416.00	1.00	6.00	2.00	23.26	0.00	3.00	0.00
4	8.70	1.00	15.70	0.00	332.00	0.00	6.00	2.10	24.14	0.00	2.86	0.00
5	13.40	2.00	13.80	0.00	302.00	0.00	10.50	1.90	14.18	1.00	5.53	1.00
6	5.30	0.00	13.50	0.00	204.00	0.00	3.40	1.30	24.53	0.00	2.62	0.00
7	6.20	0.00	16.30	0.00	188.00	0.00	3.90	1.60	25.81	0.00	2.44	0.00
8	9.00	1.00	15.70	0.00	291.00	0.00	5.20	2.90	32.22	0.00	1.79	0.00
9	6.60	0.00	13.30	0.00	254.00	0.00	4.50	1.30	19.70	1.00	3.46	0.00
10	5.90	0.00	12.80	0.00	279.00	0.00	2.40	2.80	47.46	0.00	0.86	0.00
11	7.80	0.00	17.50	0.00	230.00	0.00	5.90	1.50	19.23	1.00	3.93	0.00
12	5.30	0.00	12.10	0.00	290.00	0.00	3.40	1.50	28.30	0.00	2.27	0.00
13	5.70	0.00	13.60	0.00	272.00	0.00	3.50	1.60	28.07	0.00	2.19	0.00
14												
15	9.80	1.00	16.00	0.00	351.00	0.00	6.90	2.20	22.45	0.00	3.14	0.00
16	6.10	0.00	15.60	0.00	232.00	0.00	3.60	2.00	32.79	0.00	1.80	0.00
17	10.30	1.00	14.50	0.00			7.90	1.50	14.56	1.00	5.27	1.00
18	8.40	0.00	13.00	0.00	300.00	0.00	5.80	2.00	23.81	0.00	2.90	0.00
19	7.50	0.00	12.80	0.00	195.00	0.00	4.30	2.30	30.67	0.00	1.87	0.00
20	5.90	0.00	13.30	0.00	410.00	1.00	3.50	1.80	30.51	0.00	1.94	0.00
21	6.00	0.00	11.50	1.00	338.00	0.00	3.90	1.70	28.33	0.00	2.29	0.00
22	5.50	0.00	15.40	0.00	218.00	0.00	3.40	1.40	25.45	0.00	2.43	0.00
23	6.10	0.00	11.80	1.00	251.00	0.00	3.40	2.30	37.70	0.00	1.48	0.00
24	8.20	0.00	15.90	0.00	224.00	0.00	5.00	2.20	26.83	0.00	2.27	0.00
25	5.70	0.00	15.40	0.00	162.00	0.00	3.60	1.60	28.07	0.00	2.25	0.00
26	11.40	2.00	11.10	1.00	515.00	1.00	5.50	4.20	36.84	0.00	1.31	0.00
27	7.60	0.00	14.30	0.00	182.00	0.00	3.80	2.90	38.16	0.00	1.31	0.00
28	9.00	1.00	7.20	1.00	467.00	1.00	5.80	2.40	26.67	0.00	2.42	0.00
29	7.80	0.00	15.20	0.00	227.00	0.00	5.10	1.80	23.08	0.00	2.83	0.00

Patient	wcc	wcccd	hb	hbcd	plts	pltscd	neut	lymph	lymper	lympercd	nlr	nlrcd
30	7.80	0.00	14.30	0.00	319.00	0.00	3.90	2.80	35.90	0.00	1.39	0.00
31	7.10	0.00	13.70	0.00	227.00	0.00	4.80	1.80	25.35	0.00	2.67	0.00
32	7.20	0.00	15.10	0.00	151.00	0.00	4.30	2.30	31.94	0.00	1.87	0.00
33	5.20	0.00	14.30	0.00	281.00	0.00	2.90	1.50	28.85	0.00	1.93	0.00
34	9.40	1.00	15.40	0.00	343.00	0.00	5.60	2.30	24.47	0.00	2.43	0.00
35	9.30	1.00	11.10	1.00	344.00	0.00	6.20	2.00	21.51	0.00	3.10	0.00
36	7.10	0.00	13.10	0.00	234.00	0.00	4.80	1.80	25.35	0.00	2.67	0.00
37	6.50	0.00	13.80	0.00	239.00	0.00	4.30	1.40	21.54	0.00	3.07	0.00
38	10.30	1.00	13.00	0.00	301.00	0.00	6.80	2.50	24.27	0.00	2.72	0.00
39	6.80	0.00	14.00	0.00	318.00	0.00	3.20	2.90	42.65	0.00	1.10	0.00
40	10.00	1.00	14.10	0.00	244.00	0.00	6.70	2.60	26.00	0.00	2.58	0.00
41	8.90	1.00	11.00	1.00	357.00	0.00	5.70	2.00	22.47	0.00	2.85	0.00
42	7.60	0.00	15.00	0.00	352.00	0.00	5.20	1.60	21.05	0.00	3.25	0.00
43												
44	5.40	0.00	14.40	0.00	306.00	0.00	2.50	2.20	40.74	0.00	1.14	0.00
45	9.50	1.00	15.70	0.00	110.00	0.00	5.10	3.30	34.74	0.00	1.55	0.00
46	5.10	0.00	12.60	0.00	359.00	0.00	3.50	1.20	23.53	0.00	2.92	0.00
47	11.60	2.00	10.00	1.00	343.00	0.00	9.80	0.70	6.03	2.00	14.00	1.00
48	8.80	1.00	13.80	0.00	299.00	0.00	5.80	2.40	27.27	0.00	2.42	0.00
49	5.30	0.00	12.20	0.00	274.00	0.00	3.30	1.30	24.53	0.00	2.54	0.00
50	6.20	0.00	14.40	0.00	244.00	0.00	4.10	1.50	24.19	0.00	2.73	0.00
51	7.90	0.00	4.10	1.00	319.00	0.00	4.90	2.30	29.11	0.00	2.13	0.00
52	6.70	0.00	12.10	0.00	374.00	0.00	4.40	1.80	26.87	0.00	2.44	0.00
53	5.60	0.00	9.90	1.00	184.00	0.00	4.70	0.40	7.14	2.00	11.75	1.00
54	5.40	0.00	15.80	0.00	190.00	0.00	3.70	1.10	20.37	0.00	3.36	0.00
55	9.30	1.00	15.30	0.00	224.00	0.00	6.30	2.40	25.81	0.00	2.63	0.00
56	9.30	1.00	13.50	0.00	316.00	0.00	5.70	2.70	29.03	0.00	2.11	0.00
57	7.90	0.00	14.00	0.00	170.00	0.00	4.70	2.40	30.38	0.00	1.96	0.00
58	6.00	0.00	8.60	1.00	488.00	1.00	4.00	1.50	25.00	0.00	2.67	0.00

Patient	wcc	wcccd	hb	hbcd	plts	pltscd	neut	lymph	lymper	lympercd	nlr	nlrcd
59	8.50	1.00	15.40	0.00	229.00	0.00	6.60	1.10	12.94	1.00	6.00	1.00
60	7.20	0.00	16.90	0.00	211.00	0.00	5.40	1.40	19.44	1.00	3.86	0.00
61	6.30	0.00	9.00	1.00	241.00	0.00	3.60	1.90	30.16	0.00	1.89	0.00
62	12.00	2.00	14.30	0.00	451.00	1.00	9.20	2.30	19.17	1.00	4.00	0.00
63	4.90	0.00	13.00	0.00	196.00	0.00	2.40	2.00	40.82	0.00	1.20	0.00
64	7.00	0.00	14.40	0.00	184.00	0.00	4.80	1.60	22.86	0.00	3.00	0.00
65	7.50	0.00	14.10	0.00	208.00	0.00	5.00	1.60	21.33	0.00	3.13	0.00
66	5.70	0.00	13.80	0.00	220.00	0.00	3.50	1.40	24.56	0.00	2.50	0.00
67	5.40	0.00	15.00	0.00	214.00	0.00	3.60	1.20	22.22	0.00	3.00	0.00
68	7.10	0.00	14.90	0.00	232.00	0.00	4.30	1.90	26.76	0.00	2.26	0.00
69	4.90	0.00	10.20	1.00	370.00	0.00	2.60	1.80	36.73	0.00	1.44	0.00
70	6.30	0.00	14.20	0.00	321.00	0.00	4.10	1.30	20.63	0.00	3.15	0.00
71	6.20	0.00	10.80	1.00	279.00	0.00	3.40	2.20	35.48	0.00	1.55	0.00
72	8.40	0.00	14.40	0.00	217.00	0.00	5.00	2.30	27.38	0.00	2.17	0.00
73	7.60	0.00	14.60	0.00	306.00	0.00	5.10	1.40	18.42	1.00	3.64	0.00
74	5.50	0.00	15.60	0.00	174.00	0.00	3.40	1.40	25.45	0.00	2.43	0.00
75	7.60	0.00	11.30	1.00	373.00	0.00	4.90	1.70	22.37	0.00	2.88	0.00
76	5.60	0.00	14.60	0.00	199.00	0.00	3.60	1.30	23.21	0.00	2.77	0.00
77	11.40	2.00	13.10	0.00	370.00	0.00	7.80	2.30	20.18	0.00	3.39	0.00
78	9.90	1.00	13.80	0.00	391.00	0.00	5.90	2.80	28.28	0.00	2.11	0.00
79	6.00	0.00	14.70	0.00	318.00	0.00	4.30	1.00	16.67	1.00	4.30	0.00
80	4.10	0.00	8.30	1.00	284.00	0.00	2.50	1.00	24.39	0.00	2.50	0.00
81	8.70	1.00	14.40	0.00	292.00	0.00	6.10	1.60	18.39	1.00	3.81	0.00
82	14.90	2.00	15.10	0.00	361.00	0.00	12.10	2.10	14.09	1.00	5.76	1.00
83	6.90	0.00	14.90	0.00	201.00	0.00	4.50	1.50	21.74	0.00	3.00	0.00
84	7.20	0.00	15.40	0.00	257.00	0.00	4.70	1.90	26.39	0.00	2.47	0.00
85	8.70	1.00	12.90	0.00	343.00	0.00	5.30	2.80	32.18	0.00	1.89	0.00
86	8.20	0.00	16.50	0.00	284.00	0.00	5.20	2.10	25.61	0.00	2.48	0.00
87	6.90	0.00	14.30	0.00	231.00	0.00	4.20	2.00	28.99	0.00	2.10	0.00

Patient	wcc	wcccd	hb	hbcd	plts	pltscd	neut	lymph	lymper	lympercd	nlr	nlrcd
88	6.20	0.00	13.60	0.00	347.00	0.00	4.10	1.50	24.19	0.00	2.73	0.00
89	8.90	1.00	13.90	0.00	260.00	0.00	5.70	1.80	20.22	0.00	3.17	0.00
90	7.00	0.00	14.70	0.00	288.00	0.00	4.70	1.60	22.86	0.00	2.94	0.00
91	5.20	0.00	13.60	0.00	156.00	0.00	2.70	2.10	40.38	0.00	1.29	0.00
92	5.10	0.00	13.90	0.00	257.00	0.00	2.80	1.80	35.29	0.00	1.56	0.00
93	5.70	0.00	16.00	0.00	212.00	0.00	3.00	2.00	35.09	0.00	1.50	0.00
94	7.00	0.00	15.20	0.00	282.00	0.00	4.20	1.80	25.71	0.00	2.33	0.00
95	9.00	1.00	15.90	0.00	231.00	0.00	4.80	2.80	31.11	0.00	1.71	0.00
96	10.80	1.00	11.00	1.00	233.00	0.00	7.00	3.20	29.63	0.00	2.19	0.00
97	6.80	0.00	9.80	1.00	389.00	0.00	4.10	1.80	26.47	0.00	2.28	0.00
98	9.40	1.00	15.30	0.00	308.00	0.00	6.60	1.90	20.21	0.00	3.47	0.00
99	8.70	1.00	12.70	0.00	398.00	0.00	5.90	2.00	22.99	0.00	2.95	0.00
100	12.30	2.00	14.10	0.00	326.00	0.00	8.30	3.10	25.20	0.00	2.68	0.00
101	6.60	0.00	12.60	0.00	334.00	0.00	3.40	2.40	36.36	0.00	1.42	0.00
102	9.00	1.00	15.90	0.00	338.00	0.00	6.30	1.90	21.11	0.00	3.32	0.00
103	7.80	0.00	14.80	0.00	333.00	0.00	5.40	1.60	20.51	0.00	3.38	0.00
104	9.70	1.00	10.90	1.00	441.00	1.00	6.70	2.10	21.65	0.00	3.19	0.00
105	7.00	0.00	12.70	0.00	311.00	0.00	4.50	2.00	28.57	0.00	2.25	0.00
106	7.40	0.00	12.40	0.00	246.00	0.00	4.60	2.00	27.03	0.00	2.30	0.00
107	8.00	0.00	10.70	1.00	273.00	0.00	4.70	2.20	27.50	0.00	2.14	0.00
108	12.50	2.00	12.40	0.00	236.00	0.00	9.90	1.80	14.40	1.00	5.50	1.00
109	6.70	0.00	10.80	1.00	268.00	0.00	5.20	0.70	10.45	2.00	7.43	1.00
110	9.00	1.00	14.30	0.00	299.00	0.00	7.20	1.20	13.33	1.00	6.00	1.00
111	8.00	0.00	11.90	1.00	216.00	0.00	6.00	1.40	17.50	1.00	4.29	0.00
112	8.00	0.00	15.80	0.00	262.00	0.00	5.20	2.00	25.00	0.00	2.60	0.00
113	7.10	0.00	10.70	1.00	288.00	0.00	5.50	1.10	15.49	1.00	5.00	1.00
114	19.60	2.00	14.40	0.00	252.00	0.00	17.80	0.70	3.57	2.00	25.43	1.00
115	5.00	0.00	12.20	0.00	364.00	0.00	3.20	1.30	26.00	0.00	2.46	0.00
116	10.20	1.00	13.90	0.00	294.00	0.00	7.20	2.20	21.57	0.00	3.27	0.00

Patient	wcc	wcccd	hb	hbcd	plts	pltscd	neut	lymph	lymper	lympercd	nlr	nlrcd
117	9.90	1.00	9.20	1.00	284.00	0.00	7.20	2.00	20.20	0.00	3.60	0.00
118	8.30	0.00	13.50	0.00	327.00	0.00	6.30	1.50	18.07	1.00	4.20	0.00
119	9.70	1.00	14.70	0.00	299.00	0.00	7.20	1.40	14.43	1.00	5.14	1.00
120	5.40	0.00	12.90	0.00	233.00	0.00	3.00	1.80	33.33	0.00	1.67	0.00

APPENDIX 2: DATABASE FOR CHAPTER 3:

THE RELATIONSHIP BETWEEN THE SYSTEMIC INFLAMMATORY RESPONSE, TUMOUR PROLIFERATIVE ACTIVITY, LEUCOCYTE AND MACROPHAGE INFILTRATION AND SURVIVAL IN PATIENTS SELECTED FOR POTENTIALLY CURATIVE RESECTION FOR GASTRO-OESOPHAGEAL CANCER.

Patient	m0f1	ki67ac	ki67cd	Ki67mh	klinjjg	klinac	klincd	cd68	cd68ter	cd68suma	age	agecd	dateop	posi	positcd	histolog	typecd
1	1.00	0.00	0.00		1.00	1.00	1.00				59	0.00	14-Jan-2004	g	1.00	Adeno	0.00
2	1.00	0.30	0.00		1.00	1.00	1.00				65	1.00	08-May-2003	g	1.00	Adeno	0.00
3	0.00	2.80	1.00		1.00	1.00	1.00				52	0.00	10-May-2004	g	1.00	Adeno	0.00
4	0.00	4.50	1.00		1.00	1.00	1.00				61	0.00	22-May-2000	g	1.00	Adeno	0.00
5	1.00	4.80	2.00		1.00	1.00	1.00				61	0.00	28-Nov-2001	o	0.00	squam	1.00
6	1.00	0.00	0.00		1.00	1.00	1.00	0.20	0.00		59	0.00	23-Oct-2000	o	0.00	Adeno	0.00
7	1.00	1.40	0.00		1.00	1.00	1.00	0.20	0.00		74	1.00	28-Apr-1997	g	1.00	Adeno	0.00
8	1.00	3.00	1.00		1.00	1.00	1.00	0.30	0.00		73	1.00	26-Mar-2001	G	1.00	Adeno	0.00
9	1.00	1.30	0.00		1.00	1.00	1.00	0.40	0.00		65	1.00	09-Oct-1996	o/g	1.00	Adeno	0.00
10	0.00	0.00	0.00		2.00	3.00	0.00	0.60	0.00		73	1.00	01-Aug-2002	o	0.00	Adeno	0.00
11	0.00	0.40	0.00		1.00	1.00	1.00	0.70	0.00		71	1.00	16-Nov-2000	g	1.00	Adeno	0.00
12	0.00	15.00	2.00		1.00	1.00	1.00	0.70	0.00	4.00	70	1.00	20-Aug-2003	g	1.00	Adeno	0.00
13	0.00	2.40	1.00		1.00	1.00	1.00	1.00	0.00	2.60	77	2.00	01-Sep-1996	g	1.00	Adeno	0.00
14	1.00	5.10	2.00		1.00	1.00	1.00	1.10	0.00		77	2.00	24-Mar-2003	G	1.00	Adeno	0.00
15	1.00	0.00	0.00		1.00	0.00	1.00	1.20	0.00		66	1.00	22-Jul-1996	g	1.00	Adeno	0.00
16	1.00	2.70	1.00		1.00	1.00	1.00	1.20	0.00		77	2.00	17-May-2004	g	1.00	Adeno	0.00
17	0.00	14.30	2.00		1.00	1.00	1.00	1.20	0.00		49	0.00	09-Aug-1999	o	0.00	squam	1.00
18	0.00	33.70	2.00		1.00	1.00	1.00	1.20	0.00	4.50	54	0.00	05-Sep-2000	o	0.00	squam	1.00
19	1.00	3.30	1.00		1.00	1.00	1.00	1.30	0.00		38	0.00	13-Aug-2003	0	0.00	Adeno	0.00
20	1.00	3.50	1.00		1.00	1.00	1.00	1.50	0.00	3.50	73	1.00	28-Oct-1998	o	0.00	Adeno	0.00
21	0.00	39.00	2.00		1.00	1.00	1.00	1.50	0.00		52	0.00	11-Feb-2002	o	0.00	Adeno	0.00
22	0.00	0.60	0.00		1.00	1.00	1.00	1.60	0.00		70	1.00	01-Nov-2002	g	1.00	Adeno	0.00
23	1.00	4.80	2.00		1.00	1.00	1.00	1.60	0.00		58	0.00	16-Jul-1999	o	0.00	Adeno	0.00
24	0.00	4.50	1.00		2.00	1.00	1.00	1.70	0.00		72	1.00	21-Oct-1998	g	1.00	Adeno	0.00

Patient	m0f1	ki67ac	ki67cd	Ki67mh	klinjjg	klinac	klincd	cd68	cd68ter	cd68suma	age	agecd	dateop	posi	positcd	histolog	typecd
25	0.00	6.90	2.00	13.50	1.00	1.00	1.00	1.70	0.00		70	1.00	17-Apr-2002	g	1.00	Adeno	0.00
26	0.00	1.30	0.00		2.00	2.00	0.00	1.80	0.00		71	1.00	24-Nov-1999	o	0.00	squam	1.00
27	0.00	0.00	0.00		1.00	1.00	1.00	1.90	0.00		75	2.00	08-Nov-2000	G	1.00	Adeno	0.00
28	1.00	0.00	0.00		1.00	1.00	1.00	1.90	0.00	4.00	67	1.00	01-Jun-2000	g	1.00	Adeno	0.00
29	0.00	5.30	2.00		1.00	2.00	0.00	2.00	0.00		68	1.00	02-Oct-2002	o	0.00	Adeno	0.00
30	1.00	8.20	2.00		1.00	1.00	1.00	2.00	0.00	4.00	71	1.00	12-May-2004	o	0.00	squam	1.00
31	0.00	12.30	2.00		1.00	1.00	1.00	2.10	0.00		47	0.00	30-Aug-2000	o	0.00	Adeno	0.00
32	1.00	2.20	1.00		1.00	1.00	1.00	2.20	0.00		41	0.00	14-Nov-2001	g	1.00	Adeno	0.00
33	0.00	0.00	0.00		1.00	1.00	1.00	2.30	0.00	7.60	48	0.00	01-Dec-1999	g	1.00	Adeno	0.00
34	1.00	0.00	0.00		2.00	2.00	0.00	2.30	0.00		65	1.00	11-Oct-1999	o	0.00	squam	1.00
35	1.00	3.00	1.00		1.00	1.00	1.00	2.30	0.00	4.00	34	0.00	16-Jul-1997	G	1.00	AD	0.00
36	0.00	0.10	0.00		1.00	1.00	1.00	2.40	1.00		46	0.00	26-Jun-2003	o	0.00	Adeno	0.00
37	1.00	1.80	1.00		1.00	1.00	1.00	2.40	1.00		67	1.00	28-Sep-1999	o	0.00	squam	1.00
38	0.00	4.90	2.00	10.90	1.00	1.00	1.00	2.40	1.00		59	0.00	29-May-2002	g	1.00	Adeno	0.00
39	1.00	23.90	2.00	29.60	1.00	1.00	1.00	2.40	1.00		72	1.00	11-Apr-2001	G	1.00	Adeno	0.00
40	0.00	18.70	2.00	15.40	1.00	1.00	1.00	2.50	1.00		64	0.00	06-Mar-2002	o	0.00	Adeno	0.00
41	0.00	3.40	1.00		1.00	1.00	1.00	2.60	1.00		60	0.00	09-Mar-1998	o	0.00	Adeno	0.00
42	0.00	4.90	2.00	7.80	2.00	2.00	0.00	2.60	1.00		60	0.00	14-Apr-1999	o	0.00	Adeno	0.00
43	0.00	1.20	0.00		1.00	1.00	1.00	3.10	1.00		58	0.00	28-Apr-2004	o	0.00	squam	1.00
44	0.00	5.40	2.00		1.00	1.00	1.00	3.10	1.00		62	0.00	21-May-2003	o	0.00	Adeno	0.00
45	0.00	5.60	2.00		1.00	1.00	1.00	3.10	1.00		34	0.00	22-Mar-2000	G	1.00	Adeno	0.00
46	0.00	17.30	2.00		1.00	1.00	1.00	3.20	1.00	14.00	51	0.00	22-Dec-2004	o	0.00	squam	1.00
47	1.00	25.50	2.00		1.00	1.00	1.00	3.20	1.00		69	1.00	14-Feb-2000	o	0.00	squam	1.00
48	1.00	0.20	0.00		1.00	1.00	1.00	4.00	1.00	4.00	63	0.00	06-May-1999	g	1.00	Adeno	0.00
49	0.00	0.30	0.00		1.00	1.00	1.00	4.50	1.00		66	1.00	04-Aug-2003	o	0.00	Adeno	0.00
50	1.00	8.60	2.00		1.00	1.00	1.00	4.70	1.00		80	2.00	11-Feb-2004	o	0.00	Adeno	0.00

Patient	m0f1	ki67ac	ki67cd	Ki67mh	klinjjg	klinac	klincd	cd68	cd68ter	cd68suma	age	agecd	dateop	posi	positcd	histolog	typecd
51	1.00	0.50	0.00		1.00	1.00	1.00	5.00	1.00	6.00	46	0.00	17-Jun-2004	o	0.00	squam	1.00
52	0.00	4.70	2.00		1.00	1.00	1.00	5.00	1.00		52	0.00	11-Jul-2001	G	1.00	Adeno	0.00
53	0.00	5.70	2.00		1.00	1.00	1.00	5.00	1.00	5.00	56	0.00	15-Jan-2003	o	0.00	Adeno	0.00
54	0.00	0.60	0.00	4.30	2.00	2.00	0.00	5.00	1.00	22.00	60	0.00	06-Nov-2000	g	1.00	Adeno	0.00
55	0.00	1.50	1.00		3.00	2.00	0.00	5.20	1.00	13.00	74	1.00	26-Jan-2000	o	0.00	squam	1.00
56	0.00	0.00	0.00		1.00	1.00	1.00	5.30	1.00		63	0.00	19-Aug-1996	o	0.00	Adeno	0.00
57	0.00	2.90	1.00		2.00	2.00	0.00	5.40	1.00	14.00	61	0.00	04-Dec-2002	o	0.00	Adeno	0.00
58	0.00	9.90	2.00		3.00	3.00	0.00	5.40	1.00	10.00	59	0.00	29-Mar-1999	g	1.00	Adeno	0.00
59	0.00	4.40	1.00		1.00	1.00	1.00	5.50	1.00		62	0.00	26-Jun-2002	o	0.00	Adeno	0.00
60	0.00	2.70	1.00		2.00	2.00	0.00	5.60	1.00		69	1.00	04-Feb-2004	o	0.00	Adeno	0.00
61	0.00	1.50	1.00		1.00	1.00	1.00	5.70	1.00	7.00	63	0.00	18-Apr-2001	o	0.00	squam	1.00
62	0.00	1.60	1.00	6.00	1.00	1.00	1.00	5.80	1.00		71	1.00	16-May-2001	g	1.00	Adeno	0.00
63	1.00	0.90	0.00		1.00	1.00	1.00	5.90	1.00	5.00	70	1.00	25-Mar-2003	o	0.00	Adeno	0.00
64	1.00	3.20	1.00		1.00	1.00	1.00	5.90	1.00		58	0.00	21-Apr-2004	o	0.00	squam	1.00
65	0.00	4.30	1.00	3.80	1.00	1.00	1.00	5.90	1.00	9.00	59	0.00	17-Mar-2003	o	0.00	squam	1.00
66	0.00	2.50	1.00		1.00	1.00	1.00	6.10	1.00	4.00	60	0.00	06-Oct-2004	g	1.00	Adeno	0.00
67	0.00	5.10	2.00	8.60	1.00	1.00	1.00	6.10	1.00		65	1.00	09-May-2001	o	0.00	Adeno	0.00
68	1.00	0.70	0.00		1.00	1.00	1.00	6.40	1.00	15.10	78	2.00	11-Dec-1995	g	1.00	Adeno	0.00
69	0.00	2.20	1.00		1.00	1.00	1.00	6.50	2.00		42	0.00	18-Aug-2004	g	1.00	Adeno	0.00
70	1.00	11.80	2.00		1.00	1.00	1.00	6.80	2.00		75	2.00	31-May-2001	g	1.00	Adeno	0.00
71	0.00	3.00	1.00		1.00	1.00	1.00	7.10	2.00		72	1.00	16-Feb-2000	o	0.00	Adeno	0.00
72	0.00	22.10	2.00	13.00	1.00	1.00	1.00	7.10	2.00	6.00	55	0.00	10-Sep-2003	o	0.00	Adeno	0.00
73	0.00	48.10	2.00		1.00	1.00	1.00	7.30	2.00		59	0.00	27-Aug-2003	o	0.00	Adeno	0.00
74	1.00	2.00	1.00	4.40	2.00	2.00	0.00	7.30	2.00		61	0.00	01-Mar-2000	o	0.00	squam	1.00
75	0.00	1.30	0.00		1.00	1.00	1.00	7.60	2.00	9.00	51	0.00	07-Apr-1999	o	0.00	squam	1.00
76	0.00	18.20	2.00		1.00	1.00	1.00	7.60	2.00		72	1.00	09-Jan-2002	g	1.00	Adeno	0.00

Patient	m0f1	ki67ac	ki67cd	Ki67mh	klinjjg	klinac	klincd	cd68	cd68ter	cd68suma	age	agecd	dateop	posi	positcd	histolog	typecd
77	1.00	0.00	0.00		1.00	1.00	1.00	7.80	2.00		73	1.00	14-Aug-2002	o	0.00	Adeno	0.00
78	0.00	2.20	1.00		1.00	1.00	1.00	7.80	2.00		68	1.00	03-Mar-2003	o	0.00	Adeno	0.00
79	0.00	2.90	1.00		1.00	1.00	1.00	7.90	2.00		74	1.00	10-Sep-2003	g	1.00	Adeno	0.00
80	1.00	14.40	2.00	19.00	2.00	2.00	0.00	8.20	2.00		73	1.00	24-Apr-2002	o	0.00	Adeno	0.00
81	1.00	36.50	2.00		3.00	2.00	0.00	8.70	2.00	19.00	55	0.00	15-Mar-2000	o	0.00	Adeno	0.00
82	0.00	0.00	0.00		1.00	1.00	1.00	8.80	2.00		76	2.00	11-Jun-2003	g	1.00	Adeno	0.00
83	0.00	0.00	0.00		1.00	1.00	1.00	9.30	2.00		68	1.00	03-Jun-2002	o	0.00	Adeno	0.00
84	1.00	0.50	0.00		1.00	1.00	1.00	9.40	2.00		68	1.00	16-Jun-1997	G	1.00	ADE	0.00
85	0.00	1.00	0.00	4.60	1.00	1.00	1.00	9.50	2.00	11.00	59	0.00	03-Nov-1999	o	0.00	Adeno	0.00
86	0.00	1.30	0.00		1.00	1.00	1.00	9.80	2.00	18.00	75	2.00	03-Sep-2002	g	1.00	Adeno	0.00
87	0.00	1.50	1.00		1.00	1.00	1.00	10.10	2.00	12.00	73	1.00	13-Oct-1999	g	1.00	Adeno	0.00
88	0.00	1.90	1.00		1.00	1.00	1.00	10.20	2.00		66	1.00	05-Jul-1999	g	1.00	Adeno	0.00
89	0.00	3.40	1.00	7.50	1.00	1.00	1.00	10.20	2.00		56	0.00	21-Jun-2000	g	1.00	Adeno	0.00
90	1.00	2.40	1.00		1.00	1.00	1.00	10.90	2.00		71	1.00	25-Jun-2003	o	0.00	squam	1.00
91	0.00	2.30	1.00		1.00	1.00	1.00	11.00	2.00		64	0.00	05-Sep-2002	G	1.00	Adeno	0.00
92	0.00	40.10	2.00		3.00	3.00	0.00	11.00	2.00		68	1.00	24-Jun-2002	g	1.00	Adeno	0.00
93	0.00	7.30	2.00	9.40	1.00	1.00	1.00	13.50	2.00		64	0.00	10-Jan-2001	g	1.00	Adeno	0.00
94	0.00	6.60	2.00	8.40	2.00	2.00	0.00	13.70	2.00		59	0.00	05-Dec-2001	G	1.00	Adeno	0.00
95	0.00	0.50	0.00		1.00	1.00	1.00	13.90	2.00		68	1.00	20-Mar-2002	g	1.00	Adeno	0.00
96	1.00	2.40	1.00	4.30	1.00	2.00	0.00	13.90	2.00		59	0.00	29-May-2000	g	1.00	Adeno	0.00
97	0.00	0.10	0.00		0.00	0.00	1.00	14.60	2.00		73	1.00	08-Jun-1998	o	0.00	Adeno	0.00
98	0.00	32.20	2.00	17.14	2.00	3.00	0.00	14.80	2.00	17.00	74	1.00	03-Apr-2000	o	0.00	Adeno	0.00
99	1.00	3.60	1.00	3.15	3.00	3.00	0.00	17.70	2.00	19.50	77	2.00	23-Aug-1999	o	0.00	squam	1.00
100	1.00	2.00	1.00		2.00	3.00	0.00	21.30	2.00	33.00	48	0.00	03-Jul-2002	G	1.00	Adeno	0.00

Patient	t	n	m	tnmstcd	diffcd	tdiff	posnodes	lymphcd	totalnod	nodratio	ratiocd	r	a0c1n2	doffu	Survmths
1	2	1.00	1	4.00	1.00	0.00	6.00	1.00	18.00	0.33	2.00	1.00	1.00	06-Jun-2004	4.80
2	1	0.00	0	1.00	1.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	1.00	18-Nov-2004	18.67
3	1	0.00	0	1.00	0.00	2.00	0.00	0.00	29.00	0.00	0.00	0.00	1.00	25-Nov-2004	6.63
4	1	0.00	0	1.00	1.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	31-Aug-2009	112.93
5	2	1.00	0	2.00	1.00	0.00	3.00	1.00	26.00	0.12	1.00	0.00	1.00	14-Jul-2003	19.77
6	3	1.00	0	3.00	1.00	0.00	6.00	1.00	26.00	0.23	2.00	0.00	1.00	22-Jun-2001	8.07
7	3	1.00	0	3.00	0.00	2.00	1.00	1.00	15.00	0.07	1.00	0.00	1.00	08-Oct-1999	29.77
8	3	2.00	1	4.00	1.00	0.00	7.00	1.00	16.00	0.44	2.00	1.00	1.00	26-Aug-2001	5.10
9	3	1.00	0	3.00	0.00	1.00	2.00	1.00	20.00	0.10	1.00	0.00	1.00	18-Feb-1998	16.57
10	3	1.00	0	3.00	1.00	0.00	1.00	1.00	33.00	0.03	1.00	0.00	1.00	07-Jan-2005	29.67
11	2	2.00	0	3.00	1.00	0.00	29.00	1.00	34.00	0.85	2.00	0.00	1.00	27-Oct-2001	11.50
12	3	1.00	0	3.00	1.00	0.00	1.00	1.00	22.00	0.05	1.00	0.00	1.00	25-Mar-2004	7.27
13	3	0.00	0	2.00	1.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	1.00	12-Jan-2001	53.13
14	3	2.00	0	3.00	0.00	1.00	16.00	1.00	43.00	0.37	2.00	0.00	1.00	01-Sep-2003	5.37
15	3	1.00	0	3.00	0.00	1.00	5.00	1.00	23.00	0.22	2.00	0.00	0.00	31-Aug-2009	159.60
16	3	2.00	0	3.00	0.00	1.00	10.00	1.00	39.00	0.26	2.00	0.00	0.00	31-Aug-2009	64.40
17	2	1.00	0	2.00	1.00	0.00	4.00	1.00	16.00	0.25	2.00	0.00	1.00	29-Aug-2001	25.03
18	3	0.00	0	2.00	1.00	0.00	0.00	0.00	17.00	0.00	0.00	0.00	1.00	22-Jul-2001	10.67
19	3	1.00	0	3.00	0.00	1.00	10.00	1.00	15.00	0.67	2.00	1.00	2.00	19-Jul-2005	23.53
20	2	0.00	0	1.00	1.00	0.00	0.00	0.00	22.00	0.00	0.00	0.00	0.00	31-Aug-2009	132.00
21	3	1.00	0	3.00	0.00	1.00	5.00	1.00	24.00	0.21	2.00	1.00	1.00	28-Dec-2006	59.37
22	3	0.00	0	2.00	1.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	1.00	13-Jul-2005	32.83
23	1	0.00	0	1.00	0.00	2.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00	31-Aug-2009	123.30
24	3	0.00	0	2.00	0.00	1.00	0.00	0.00	10.00	0.00	0.00	0.00	1.00	29-Nov-2004	74.37
25	2	0.00	0	1.00	0.00	1.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	31-Aug-2009	89.77
26	2	0.00	0	2.00	0.00	1.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	31-Aug-2009	118.93
27	2	0.00	0	1.00	0.00	1.00	0.00	0.00	23.00	0.00	0.00	0.00	0.00	31-Aug-2009	107.27
28	3	2.00	0	3.00	1.00	0.00	9.00	1.00	25.00	0.36	2.00	0.00	1.00	08-Feb-2001	8.40
29	1	0.00	0	1.00	0.00	2.00	0.00	0.00	34.00	0.00	0.00	0.00	0.00	31-Aug-2009	84.17

Patient	t	n	m	tnmstcd	diffcd	tdiff	posnodes	lymphcd	totalnod	nodratio	ratiocd	r	a0c1n2	doffu	Survmths
30	1	0.00	0	1.00	0.00	1.00	0.00	0.00	27.00	0.00	0.00	0.00	0.00	31-Aug-2009	64.57
31	1	0.00	0	1.00	0.00	2.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00	31-Aug-2009	109.60
32	3	0.00	0	2.00	0.00	1.00	7.00	1.00	20.00	0.35	2.00	0.00	1.00	08-Oct-2002	10.93
33	2	0.00	0	1.00	1.00	0.00	1.00	1.00	18.00	0.06	1.00	0.00	0.00	31-Aug-2009	118.70
34	3	0.00	0	2.00	1.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	1.00	22-Jun-2002	32.83
35	3	1.00	0	3.00	0.00	2.00	3.00	1.00	27.00	0.11	1.00	0.00	0.00	31-Aug-2009	147.63
36	2	1.00	0	2.00	0.00	1.00	1.00	1.00	16.00	0.06	1.00	0.00	0.00	31-Aug-2009	75.27
37	2	1.00	0	2.00	0.00	1.00	1.00	1.00	13.00	0.08	1.00	0.00	1.00	09-Nov-1999	1.40
38	2	0.00	0	1.00	0.00	2.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	31-Aug-2009	88.37
39	2	0.00	0	1.00	0.00	1.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00	31-Aug-2009	102.13
40	3	0.00	0	2.00	0.00	1.00	0.00	0.00	33.00	0.00	0.00	0.00	0.00	31-Aug-2009	91.17
41	3	1.00	0	3.00	0.00	1.00	7.00	1.00	40.00	0.18	1.00	1.00	1.00	24-Sep-2005	91.87
42	2	0.00	0	2.00	0.00	2.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	31-Aug-2009	126.40
43	2	1.00	0	2.00	0.00	2.00	1.00	1.00	14.00	0.07	1.00	0.00	1.00	16-Oct-2007	42.20
44	4	1.00	0	4.00	1.00	0.00	1.00	1.00	34.00	0.03	1.00	1.00	2.00	26-Nov-2007	55.00
45	3	2.00	0	3.00	1.00	0.00	11.00	1.00	15.00	0.73	2.00	0.00	1.00	04-Aug-2001	16.67
46	3	1.00	0	3.00	0.00	1.00	8.00	1.00	37.00	0.22	2.00	1.00	1.00	10-Dec-2005	11.77
47	1	0.00	0	1.00	1.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	31-Aug-2009	116.20
48	2	1.00	0	2.00	0.00	1.00	6.00	1.00	17.00	0.35	2.00	0.00	0.00	31-Aug-2009	125.67
49	3	1.00	0	3.00	0.00	1.00	2.00	1.00	18.00	0.11	1.00	0.00	0.00	31-Aug-2009	73.97
50	3	0.00	0	2.00	0.00	1.00	0.00	0.00	13.00	0.00	0.00	0.00	2.00	30-Jul-2006	30.00
51	3	1.00	0	3.00	0.00	1.00	1.00	1.00	29.00	0.03	1.00	0.00	1.00	11-Jun-2008	48.50
52	1	0.00	0	1.00			0.00	0.00	0.00	0.00	0.00	0.00	1.00	31-Mar-2002	8.77
53	3	1.00	0	3.00	1.00	0.00	4.00	1.00	33.00	0.12	1.00	1.00	0.00	31-Aug-2009	80.67
54	2	0.00	0	1.00	1.00	0.00	0.00	0.00	24.00	0.00	0.00	0.00	1.00	22-Sep-2001	10.67
55	1	0.00	0	1.00	1.00	0.00	0.00	0.00	34.00	0.00	0.00	0.00	0.00	31-Aug-2009	116.83
56	3	1.00	0	3.00	1.00	0.00	5.00	1.00	24.00	0.21	2.00	1.00	1.00	20-Feb-2003	79.20
57	1	0.00	0	1.00	0.00	1.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	31-Aug-2009	82.07
58	1	0.00	0	1.00	0.00	2.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	31-Aug-2009	126.93

Patient	t	n	m	tnmstcd	diffcd	tdiff	posnodes	lymphcd	totalnod	nodratio	ratiocd	r	a0c1n2	doffu	Survmths
59	3	1.00	0	3.00	1.00	0.00	4.00	1.00	13.00	0.31	2.00	0.00	1.00	10-Sep-2003	14.70
60	2	1.00	0	2.00	1.00	0.00	4.00	1.00	32.00	0.13	1.00	0.00	1.00	10-Aug-2004	6.27
61	1	0.00	0	1.00	1.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	1.00	07-Dec-2001	7.77
62	1	0.00	0	1.00	0.00	2.00	1.00	1.00	30.00	0.03	1.00	0.00	0.00	31-Aug-2009	100.97
63	3	0.00	0	2.00	0.00	2.00	0.00	0.00	12.00	0.00	0.00	1.00	1.00	26-Oct-2004	19.37
64	1	0.00	0	1.00	0.00	2.00	0.00	0.00	22.00	0.00	0.00	0.00	1.00	13-Sep-2004	4.83
65	3	0.00	0	2.00	0.00	1.00	0.00	0.00	21.00	0.00	0.00	0.00	0.00	31-Aug-2009	78.63
66	3	1.00	0	3.00	0.00	1.00	2.00	1.00	23.00	0.09	1.00	0.00	0.00	31-Aug-2009	59.67
67	3	1.00	0	3.00	0.00	2.00	7.00	1.00	28.00	0.25	2.00	1.00	0.00	31-Aug-2009	101.20
68	3	2.00	0	3.00	0.00	1.00	9.00	1.00	10.00	0.90	2.00	1.00	1.00	15-Aug-1997	20.43
69	1	0.00	0	1.00	0.00	2.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	31-Aug-2009	61.30
70	3	1.00	0	3.00	1.00	0.00	4.00	1.00	10.00	0.40	2.00	0.00	1.00	23-May-2002	11.90
71	1	0.00	0	1.00	0.00	2.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	31-Aug-2009	116.13
72	3	1.00	0	3.00	0.00	1.00	1.00	1.00	27.00	0.04	1.00	0.00	0.00	31-Aug-2009	72.73
73	3	1.00	0	3.00	1.00	0.00	7.00	1.00	19.00	0.37	2.00	0.00	1.00	18-Apr-2005	20.00
74	2	1.00	0	2.00	0.00	1.00	2.00	1.00	11.00	0.18	1.00	0.00	0.00	31-Aug-2009	115.67
75	3	1.00	0	3.00	1.00	0.00	7.00	1.00	28.00	0.25	2.00	0.00	1.00	16-Nov-2001	31.80
76	3	0.00	0	2.00	1.00	0.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00	31-Aug-2009	93.03
77	2	1.00	0	2.00	0.00	1.00	2.00	1.00	19.00	0.11	1.00	0.00	1.00	06-Nov-2003	14.97
78	2	1.00	0	2.00	1.00	0.00	5.00	1.00	17.00	0.29	2.00	0.00	2.00	26-Mar-2006	37.30
79	3	2.00	0	3.00	1.00	0.00	9.00	1.00	19.00	0.47	2.00	0.00	1.00	15-Dec-2005	27.57
80	2	0.00	0	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31-Aug-2009	89.53
81	2	0.00	0	2.00	0.00	1.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00	31-Aug-2009	115.20
82	1	0.00	0	1.00	0.00	2.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	31-Aug-2009	75.77
83	2	2.00	0	3.00	1.00	0.00	8.00	1.00	15.00	0.53	2.00	0.00	1.00	13-Nov-2003	17.60
84	3	1.00	0	3.00	0.00	2.00	2.00	1.00	25.00	0.08	1.00	0.00	1.00	08-Dec-1999	30.17
85	1	0.00	0	1.00	1.00	0.00	5.00	1.00	20.00	0.25	2.00	0.00	1.00	20-Oct-2000	11.73
86	3	1.00	0	3.00	0.00	1.00	4.00	1.00	55.00	0.07	1.00	0.00	1.00	30-Jan-2004	17.13
87	3	2.00	0	3.00	1.00	0.00	9.00	1.00	32.00	0.28	2.00	0.00	1.00	14-Dec-2003	50.77

Patient	t	n	m	tnmstcd	diffcd	tdiff	posnodes	lymphcd	totalnod	nodratio	ratiocd	r	a0c1n2	doffu	Survmths
88	3	0.00	0	2.00	1.00	0.00	2.00	1.00	14.00	0.14	1.00	0.00	1.00	14-Feb-2003	44.00
89	3	2.00	0	3.00	0.00	2.00	8.00	1.00	37.00	0.22	2.00	0.00	1.00	01-Jan-2005	55.17
90	3	1.00	0	3.00	0.00	2.00	1.00	1.00	18.00	0.06	1.00	1.00	0.00	31-Aug-2009	75.30
91	2	1.00	0	2.00	0.00	2.00	2.00	1.00	19.00	0.11	1.00	0.00	1.00	18-Jun-2003	9.53
92	2	1.00	0	2.00	0.00	1.00	1.00	1.00	27.00	0.04	1.00	0.00	0.00	31-Aug-2009	87.50
93	1	0.00	0	1.00	0.00	2.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	31-Aug-2009	105.17
94	3	1.00	0	3.00	1.00	0.00	2.00	1.00	20.00	0.10	1.00	0.00	0.00	31-Aug-2009	94.20
95	3	1.00	0	3.00	1.00	0.00	5.00	1.00	15.00	0.33	2.00	0.00	1.00	22-Mar-2003	12.23
96	2	0.00	0	1.00	1.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	31-Aug-2009	112.70
97	3	0.00	0	2.00	0.00	1.00	0.00	0.00	20.00	0.00	0.00	1.00	1.00	28-Jul-2002	50.37
98	2	0.00	0	2.00	1.00	0.00	0.00	0.00	44.00	0.00	0.00	0.00	0.00	31-Aug-2009	114.57
99	3	1.00	0	3.00	1.00	0.00	5.00	1.00	35.00	0.14	1.00	1.00	0.00	31-Aug-2009	122.03
100	2	1.00	0	2.00	1.00	0.00	2.00	1.00	14.00	0.14	1.00	0.00	0.00	31-Aug-2009	87.20

Patient	crpg5	crpfinal	cfinalcd	alb	albcd	gpsfin	wcc	wcccd	hb	hbcd	plts	pltscd	neut	neutcd	lymph	lympho	lymper	lympcd	nlr	nlrcd
1	1.00	7.00	0.00	37.00	0.00	0.00	6.00	0.00	8.60	1.00	488.00	1.00	4.00	0.00	1.50	1.00	25.00	0.00	2.67	0.00
2	0.00	5.00	0.00	42.00	0.00	0.00	5.40	0.00	14.40	0.00	306.00	0.00	2.50	0.00	2.20	1.00	40.74	0.00	1.14	0.00
3	0.00	5.00	0.00	42.00	0.00	0.00	7.90	0.00	4.10	1.00	319.00	0.00	4.90	0.00	2.30	1.00	29.11	0.00	2.13	0.00
4	0.00	5.00	0.00	43.00	0.00	0.00	5.50	0.00	15.40	0.00	218.00	0.00	3.40	0.00	1.40	1.00	25.45	0.00	2.43	0.00
5	1.00	12.00	1.00	46.00	0.00	1.00	9.00	1.00	14.30	0.00	299.00	0.00	7.20	0.00	1.20	1.00	13.33	1.00	6.00	1.00
6	0.00	5.00	0.00	44.00	0.00	0.00	12.30	2.00	14.10	0.00	326.00	0.00	8.30	1.00	3.10	2.00	25.20	0.00	2.68	0.00
7	1.00	21.00	1.00	36.00	0.00	1.00	7.10	0.00	10.70	1.00	288.00	0.00	5.50	0.00	1.10	1.00	15.49	1.00	5.00	1.00
8	1.00	8.00	0.00	35.00	0.00	0.00	7.50	0.00	14.10	0.00	208.00	0.00	5.00	0.00	1.60	1.00	21.33	0.00	3.13	0.00
9	1.00	22.00	1.00	43.00	0.00	1.00	10.20	1.00	13.90	0.00	294.00	0.00	7.20	0.00	2.20	1.00	21.57	0.00	3.27	0.00
10	0.00	5.00	0.00	44.00	0.00	0.00	5.70	0.00	16.00	0.00	212.00	0.00	3.00	0.00	2.00	1.00	35.09	0.00	1.50	0.00
11	1.00	17.00	1.00	38.00	0.00	1.00	9.70	1.00	14.70	0.00	299.00	0.00	7.20	0.00	1.40	1.00	14.43	1.00	5.14	1.00
12	1.00	9.00	0.00	37.00	0.00	0.00	5.10	0.00	13.90	0.00	257.00	0.00	2.80	0.00	1.80	1.00	35.29	0.00	1.56	0.00
13	0.00	5.00	0.00	41.00	0.00	0.00	6.70	0.00	13.50	0.00	165.00	0.00	3.90	0.00	2.20	1.00	32.84	0.00	1.77	0.00
14	0.00	5.00	0.00	41.00	0.00	0.00	5.70	0.00	13.80	0.00	220.00	0.00	3.50	0.00	1.40	1.00	24.56	0.00	2.50	0.00
15	0.00	5.00	0.00	43.00	0.00	0.00	9.90	1.00	13.80	0.00	391.00	0.00	5.90	0.00	2.80	1.00	28.28	0.00	2.11	0.00
16	0.00	5.00	0.00	37.00	0.00	0.00	7.60	0.00	11.30	1.00	373.00	0.00	4.90	0.00	1.70	1.00	22.37	0.00	2.88	0.00
17	0.00	5.00	0.00	42.00	0.00	0.00	7.80	0.00	17.50	0.00	230.00	0.00	5.90	0.00	1.50	1.00	19.23	1.00	3.93	0.00
18	1.00	19.00	1.00	42.00	0.00	1.00	12.50	2.00	12.40	0.00	236.00	0.00	9.90	1.00	1.80	1.00	14.40	1.00	5.50	1.00
19	0.00	5.00	0.00	38.00	0.00	0.00	5.20	0.00	13.60	0.00	156.00	0.00	2.70	0.00	2.10	1.00	40.38	0.00	1.29	0.00
20	0.00	5.00	0.00	43.00	0.00	0.00	5.30	0.00	13.50	0.00	204.00	0.00	3.40	0.00	1.30	1.00	24.53	0.00	2.62	0.00
21	0.00	5.00	0.00	42.00	0.00	0.00	12.00	2.00	14.30	0.00	451.00	1.00	9.20	1.00	2.30	1.00	19.17	1.00	4.00	0.00
22	0.00	5.00	0.00	39.00	0.00	0.00	8.90	1.00	11.00	1.00	357.00	0.00	5.70	0.00	2.00	1.00	22.47	0.00	2.85	0.00
23	0.00	5.00	0.00	43.00	0.00	0.00	5.90	0.00	12.80	0.00	279.00	0.00	2.40	0.00	2.80	1.00	47.46	0.00	0.86	0.00
24	0.00	5.00	0.00	46.00	0.00	0.00	13.40	2.00	13.80	0.00	302.00	0.00	10.50	1.00	1.90	1.00	14.18	1.00	5.53	1.00
25	0.00	5.00	0.00	43.00	0.00	0.00	9.30	1.00	11.10	1.00	344.00	0.00	6.20	0.00	2.00	1.00	21.51	0.00	3.10	0.00
26	1.00	8.00	0.00	42.00	0.00	0.00	9.80	1.00	16.00	0.00	351.00	0.00	6.90	0.00	2.20	1.00	22.45	0.00	3.14	0.00
27	0.00	5.00	0.00	44.00	0.00	0.00	5.70	0.00	15.40	0.00	162.00	0.00	3.60	0.00	1.60	1.00	28.07	0.00	2.25	0.00
28	0.00	5.00	0.00	39.00	0.00	0.00	8.40	0.00	14.40	0.00	217.00	0.00	5.00	0.00	2.30	1.00	27.38	0.00	2.17	0.00
29	0.00	5.00	0.00	42.00	0.00	0.00	10.00	1.00	14.10	0.00	244.00	0.00	6.70	0.00	2.60	1.00	26.00	0.00	2.58	0.00

Patient	crpg5	crpfinal	cfinalcd	alb	albcd	gpsfin	wcc	wcccd	hb	hbcd	plts	pltscd	neut	neutcd	lymph	lympho	lymper	lympcd	nlr	nlrcd
30	0.00	5.00	0.00	44.00	0.00	0.00	6.70	0.00	12.10	0.00	374.00	0.00	4.40	0.00	1.80	1.00	26.87	0.00	2.44	0.00
31	0.00	5.00	0.00	43.00	0.00	0.00	8.20	0.00	15.90	0.00	224.00	0.00	5.00	0.00	2.20	1.00	26.83	0.00	2.27	0.00
32	0.00	5.00	0.00	43.00	0.00	0.00	7.20	0.00	15.10	0.00	151.00	0.00	4.30	0.00	2.30	1.00	31.94	0.00	1.87	0.00
33	0.00	5.00	0.00	41.00	0.00	0.00	6.10	0.00	15.60	0.00	232.00	0.00	3.60	0.00	2.00	1.00	32.79	0.00	1.80	0.00
34	1.00	14.00	1.00	45.00	0.00	1.00	7.40	0.00	12.40	0.00	246.00	0.00	4.60	0.00	2.00	1.00	27.03	0.00	2.30	0.00
35	0.00	5.00	0.00	43.00	0.00	0.00	8.60	1.00	13.30	0.00	416.00	1.00	6.00	0.00	2.00	1.00	23.26	0.00	3.00	0.00
36	0.00	5.00	0.00	48.00	0.00	0.00	4.10	0.00	8.30	1.00	284.00	0.00	2.50	0.00	1.00	1.00	24.39	0.00	2.50	0.00
37	0.00	5.00	0.00	42.00	0.00	0.00	5.70	0.00	13.60	0.00	272.00	0.00	3.50	0.00	1.60	1.00	28.07	0.00	2.19	0.00
38	0.00	5.00	0.00	42.00	0.00	0.00	6.50	0.00	13.80	0.00	239.00	0.00	4.30	0.00	1.40	1.00	21.54	0.00	3.07	0.00
39	1.00	8.00	0.00	44.00	0.00	0.00	9.00	1.00	7.20	1.00	467.00	1.00	5.80	0.00	2.40	1.00	26.67	0.00	2.42	0.00
40	0.00	5.00	0.00	39.00	0.00	0.00	9.40	1.00	15.40	0.00	343.00	0.00	5.60	0.00	2.30	1.00	24.47	0.00	2.43	0.00
41	0.00	5.00	0.00	44.00	0.00	0.00	4.90	0.00	13.00	0.00	196.00	0.00	2.40	0.00	2.00	1.00	40.82	0.00	1.20	0.00
42	0.00	5.00	0.00	31.00	1.00	1.00	7.00	0.00	12.70	0.00	311.00	0.00	4.50	0.00	2.00	1.00	28.57	0.00	2.25	0.00
43	0.00	5.00	0.00	39.00	0.00	0.00	6.20	0.00	14.40	0.00	244.00	0.00	4.10	0.00	1.50	1.00	24.19	0.00	2.73	0.00
44	0.00	5.00	0.00	40.00	0.00	0.00	7.60	0.00	14.60	0.00	306.00	0.00	5.10	0.00	1.40	1.00	18.42	1.00	3.64	0.00
45	1.00	12.00	1.00	44.00	0.00	1.00	8.00	0.00	15.80	0.00	262.00	0.00	5.20	0.00	2.00	1.00	25.00	0.00	2.60	0.00
46	0.00	5.00	0.00	49.00	0.00	0.00	9.30	1.00	13.50	0.00	316.00	0.00	5.70	0.00	2.70	1.00	29.03	0.00	2.11	0.00
47	1.00	7.00	0.00	45.00	0.00	0.00	8.40	0.00	13.00	0.00	300.00	0.00	5.80	0.00	2.00	1.00	23.81	0.00	2.90	0.00
48	0.00	5.00	0.00	37.00	0.00	0.00	4.90	0.00	10.20	1.00	370.00	0.00	2.60	0.00	1.80	1.00	36.73	0.00	1.44	0.00
49	0.00	5.00	0.00	43.00	0.00	0.00	8.90	1.00	13.90	0.00	260.00	0.00	5.70	0.00	1.80	1.00	20.22	0.00	3.17	0.00
50	0.00	5.00	0.00	42.00	0.00	0.00	8.80	1.00	13.80	0.00	299.00	0.00	5.80	0.00	2.40	1.00	27.27	0.00	2.42	0.00
51	1.00	8.00	0.00	36.00	0.00	0.00	5.60	0.00	9.90	1.00	184.00	0.00	4.70	0.00	0.40	0.00	7.14	2.00	11.75	1.00
52	0.00	5.00	0.00	42.00	0.00	0.00	7.80	0.00	14.30	0.00	319.00	0.00	3.90	0.00	2.80	1.00	35.90	0.00	1.39	0.00
53	0.00	5.00	0.00	47.00	0.00	0.00	8.50	1.00	15.40	0.00	229.00	0.00	6.60	0.00	1.10	1.00	12.94	1.00	6.00	1.00
54	1.00	36.00	1.00	37.00	0.00	1.00	6.70	0.00	10.80	1.00	268.00	0.00	5.20	0.00	0.70	0.00	10.45	2.00	7.43	1.00
55	0.00	5.00	0.00	37.00	0.00	0.00	10.30	1.00	14.50	0.00			7.90	1.00	1.50	1.00	14.56	1.00	5.27	1.00
56	1.00	9.00	0.00	43.00	0.00	0.00	14.90	2.00	15.10	0.00	361.00	0.00	12.10	1.00	2.10	1.00	14.09	1.00	5.76	1.00
57	1.00	7.00	0.00	46.00	0.00	0.00	7.60	0.00	15.00	0.00	352.00	0.00	5.20	0.00	1.60	1.00	21.05	0.00	3.25	0.00
58	0.00	5.00	0.00	45.00	0.00	0.00	6.20	0.00	16.30	0.00	188.00	0.00	3.90	0.00	1.60	1.00	25.81	0.00	2.44	0.00

Patient	crpg5	crpfinal	cfinalcd	alb	albcd	gpsfin	wcc	wcccd	hb	hbcd	plts	pltscd	neut	neutcd	lymph	lympho	lymper	lympcd	nlr	nlrcd
59	1.00	8.00	0.00	46.00	0.00	0.00	6.90	0.00	14.90	0.00	201.00	0.00	4.50	0.00	1.50	1.00	21.74	0.00	3.00	0.00
60	0.00	5.00	0.00	41.00	0.00	0.00	6.30	0.00	9.00	1.00	241.00	0.00	3.60	0.00	1.90	1.00	30.16	0.00	1.89	0.00
61	0.00	5.00	0.00			0.00	5.80	0.00	13.20	0.00	229.00	0.00	3.50	0.00	1.80	1.00	31.03	0.00	1.94	0.00
62	0.00	5.00	0.00	37.00	0.00	0.00	7.80	0.00	15.20	0.00	227.00	0.00	5.10	0.00	1.80	1.00	23.08	0.00	2.83	0.00
63	1.00	19.00	1.00	44.00	0.00	1.00	8.00	0.00	11.90	1.00	216.00	0.00	6.00	0.00	1.40	1.00	17.50	1.00	4.29	0.00
64	0.00	5.00	0.00	42.00	0.00	0.00	5.30	0.00	12.20	0.00	274.00	0.00	3.30	0.00	1.30	1.00	24.53	0.00	2.54	0.00
65	0.00	5.00	0.00	45.00	0.00	0.00														
66	0.00	5.00	0.00	41.00	0.00	0.00	7.80	0.00	14.80	0.00	333.00	0.00	5.40	0.00	1.60	1.00	20.51	0.00	3.38	0.00
67	0.00	5.00	0.00	40.00	0.00	0.00	6.30	0.00	14.20	0.00	321.00	0.00	4.10	0.00	1.30	1.00	20.63	0.00	3.15	0.00
68	1.00	14.00	1.00	38.00	0.00	1.00	8.30	0.00	13.50	0.00	327.00	0.00	6.30	0.00	1.50	1.00	18.07	1.00	4.20	0.00
69	0.00	5.00	0.00	46.00	0.00	0.00	9.30	1.00	15.30	0.00	224.00	0.00	6.30	0.00	2.40	1.00	25.81	0.00	2.63	0.00
70	0.00	5.00	0.00	34.00	1.00	0.00	5.00	0.00	12.20	0.00	364.00	0.00	3.20	0.00	1.30	1.00	26.00	0.00	2.46	0.00
71	0.00	5.00	0.00	44.00	0.00	0.00	7.50	0.00	12.80	0.00	195.00	0.00	4.30	0.00	2.30	1.00	30.67	0.00	1.87	0.00
72	0.00	5.00	0.00	37.00	0.00	0.00	11.60	2.00	10.00	1.00	343.00	0.00	9.80	1.00	0.70	0.00	6.03	2.00	14.00	1.00
73	0.00	5.00	0.00	43.00	0.00	0.00	7.00	0.00	15.20	0.00	282.00	0.00	4.20	0.00	1.80	1.00	25.71	0.00	2.33	0.00
74	0.00	5.00	0.00	44.00	0.00	0.00	5.90	0.00	13.30	0.00	410.00	1.00	3.50	0.00	1.80	1.00	30.51	0.00	1.94	0.00
75	0.00	5.00	0.00	41.00	0.00	0.00	9.00	1.00	15.70	0.00	291.00	0.00	5.20	0.00	2.90	1.00	32.22	0.00	1.79	0.00
76	0.00	5.00	0.00	41.00	0.00	0.00	5.20	0.00	14.30	0.00	281.00	0.00	2.90	0.00	1.50	1.00	28.85	0.00	1.93	0.00
77	0.00	5.00	0.00	48.00	0.00	0.00	10.80	1.00	11.00	1.00	233.00	0.00	7.00	0.00	3.20	2.00	29.63	0.00	2.19	0.00
78	0.00	5.00	0.00	43.00	0.00	0.00	7.00	0.00	14.40	0.00	184.00	0.00	4.80	0.00	1.60	1.00	22.86	0.00	3.00	0.00
79	0.00	5.00	0.00	39.00	0.00	0.00	6.80	0.00	9.80	1.00	389.00	0.00	4.10	0.00	1.80	1.00	26.47	0.00	2.28	0.00
80	0.00	5.00	0.00	43.00	0.00	0.00	7.10	0.00	13.10	0.00	234.00	0.00	4.80	0.00	1.80	1.00	25.35	0.00	2.67	0.00
81	1.00	10.00	0.00	36.00	0.00	0.00	6.00	0.00	11.50	1.00	338.00	0.00	3.90	0.00	1.70	1.00	28.33	0.00	2.29	0.00
82	0.00	5.00	0.00	41.00	0.00	0.00	9.50	1.00	15.70	0.00	110.00	0.00	5.10	0.00	3.30	2.00	34.74	0.00	1.55	0.00
83	0.00	5.00	0.00	41.00	0.00	0.00	6.00	0.00	14.70	0.00	318.00	0.00	4.30	0.00	1.00	1.00	16.67	1.00	4.30	0.00
84	1.00	11.00	1.00	38.00	0.00	1.00	9.70	1.00	10.90	1.00	441.00	1.00	6.70	0.00	2.10	1.00	21.65	0.00	3.19	0.00
85	0.00	5.00	0.00	44.00	0.00	0.00														
86	0.00	5.00	0.00	41.00	0.00	0.00	8.70	1.00	12.70	0.00	398.00	0.00	5.90	0.00	2.00	1.00	22.99	0.00	2.95	0.00
87	0.00	5.00	0.00	44.00	0.00	0.00	9.40	1.00	15.30	0.00	308.00	0.00	6.60	0.00	1.90	1.00	20.21	0.00	3.47	0.00

Patient	crpg5	crpfinal	cfinalcd	alb	albcd	gpsfin	wcc	wcccd	hb	hbcd	plts	pltscd	neut	neutcd	lymph	lympho	lymper	lympcd	nlr	nlrcd
88	0.00	5.00	0.00	42.00	0.00	0.00	6.60	0.00	13.30	0.00	254.00	0.00	4.50	0.00	1.30	1.00	19.70	1.00	3.46	0.00
89	1.00	9.00	0.00	38.00	0.00	0.00	11.40	2.00	13.10	0.00	370.00	0.00	7.80	1.00	2.30	1.00	20.18	0.00	3.39	0.00
90	0.00	5.00	0.00	40.00	0.00	0.00	5.10	0.00	12.60	0.00	359.00	0.00	3.50	0.00	1.20	1.00	23.53	0.00	2.92	0.00
91	1.00	19.00	1.00	35.00	0.00	1.00	9.90	1.00	9.20	1.00	284.00	0.00	7.20	0.00	2.00	1.00	20.20	0.00	3.60	0.00
92	1.00	7.00	0.00	44.00	0.00	0.00	8.70	1.00	14.40	0.00	292.00	0.00	6.10	0.00	1.60	1.00	18.39	1.00	3.81	0.00
93	1.00	7.00	0.00	42.00	0.00	0.00	7.60	0.00	14.30	0.00	182.00	0.00	3.80	0.00	2.90	1.00	38.16	0.00	1.31	0.00
94	1.00	8.00	0.00	46.00	0.00	0.00	9.00	1.00	15.90	0.00	338.00	0.00	6.30	0.00	1.90	1.00	21.11	0.00	3.32	0.00
95	1.00	9.00	0.00	45.00	0.00	0.00	5.40	0.00	15.00	0.00	214.00	0.00	3.60	0.00	1.20	1.00	22.22	0.00	3.00	0.00
96	0.00	5.00	0.00	42.00	0.00	0.00	6.10	0.00	11.80	1.00	251.00	0.00	3.40	0.00	2.30	1.00	37.70	0.00	1.48	0.00
97	0.00	5.00	0.00	36.00	0.00	0.00	8.70	1.00	15.70	0.00	332.00	0.00	6.00	0.00	2.10	1.00	24.14	0.00	2.86	0.00
98	1.00	11.00	1.00	37.00	0.00	1.00	8.00	0.00	10.70	1.00	273.00	0.00	4.70	0.00	2.20	1.00	27.50	0.00	2.14	0.00
99	0.00	5.00	0.00	43.00	0.00	0.00	5.30	0.00	12.10	0.00	290.00	0.00	3.40	0.00	1.50	1.00	28.30	0.00	2.27	0.00
100	0.00	5.00	0.00	45.00	0.00	0.00	8.70	1.00	12.90	0.00	343.00	0.00	5.30	0.00	2.80	1.00	32.18	0.00	1.89	0.00

APPENDIX 3: DATABASE FOR CHAPTER 4: EVALUATION OF AN INFLAMMATION BASED PROGNOSTIC SCORE (GPS) IN PATIENTS WITH INOPERABLE GASTRO-OESOPHAGEAL CANCER.

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
1.00	1.00	63.20	0.00	oesoph	0.00	squam	1.00	18-Oct-2004	3.00	CH/DXT	0.00	0.00
2.00	0.00	71.96	1.00	oesoph	0.00	adeno	0.00	12-Nov-2003	3.00	CH/DXT	0.00	0.00
3.00	0.00	46.18	0.00	o/g	0.00	adeno	0.00	22-Feb-2002	2.00	Chemo	0.00	0.00
4.00	0.00	78.81	2.00	oesoph	0.00	squam	1.00	01-Oct-2004	3.00	Chemo	0.00	0.00
5.00	0.00	72.75	1.00	oesoph	0.00	squam	1.00	01-Sep-2003	4.00	Chemo	0.00	0.00
6.00	0.00	38.70	0.00	oesoph	0.00	squam	1.00	17-Sep-2004	4.00	Chemo	0.00	0.00
7.00	0.00	63.83	0.00	oesoph	0.00	squam	1.00	08-Oct-2002	3.00	Chemo	0.00	0.00
8.00	0.00	66.08	1.00	oesoph	0.00	adeno	0.00	30-Jul-2003	4.00	Chemo	0.00	0.00
9.00	0.00	62.33	0.00	oesoph	0.00	adeno	0.00	21-Jan-2004	4.00	Chemo	0.00	0.00
10.00	1.00	70.27	1.00	oesoph	0.00	adeno	0.00	06-Dec-2001	4.00	Chemo	0.00	0.00
11.00	0.00	54.38	0.00	oesoph	0.00	adeno	0.00	23-Mar-2004	4.00	Chemo	0.00	0.00
12.00	0.00	76.18	2.00	oesoph	0.00	adeno	0.00	10-Dec-2002	4.00	Chemo	0.00	0.00
13.00	1.00	66.93	1.00	oesoph	0.00	squam	1.00	14-Nov-2001	2.00	Chemo	0.00	0.00
14.00	0.00	62.28	0.00	o/g	0.00	adeno	0.00	16-Aug-2004	4.00	Chemo	0.00	0.00
15.00	0.00	42.72	0.00	oesoph	0.00	adeno	0.00	16-Apr-2002	4.00	Chemo	0.00	0.00
16.00	0.00	54.67	0.00	oesoph	0.00	squam	1.00	20-Jan-2004	3.00	Chemo	0.00	0.00
17.00	0.00	66.83	1.00	o/g	0.00	adeno	0.00	14-Dec-2001	2.00	Chemo	0.00	0.00
18.00	1.00	55.49	0.00	o/g	0.00	adeno	0.00	21-Dec-2004	4.00	Chemo	0.00	0.00
19.00	1.00	70.85	1.00	oesoph	0.00	adeno	0.00	01-Sep-2004	4.00	Chemo	0.00	0.00
20.00	0.00	64.68	0.00	o/g	0.00	adeno	0.00	13-Feb-2001	2.00	Chemo	0.00	0.00
21.00	0.00	60.86	0.00	oesoph	0.00	adeno	0.00	04-Jun-2003	4.00	Chemo	0.00	0.00
22.00	0.00	55.27	0.00	oesoph	0.00	adeno	0.00	12-Jun-2001	4.00	Chemo	0.00	0.00
23.00	0.00	49.44	0.00	o/g	0.00	adeno	0.00	23-Jun-2004	4.00	Chemo	0.00	0.00
24.00	0.00	66.10	1.00	o/g	0.00	adeno	0.00	27-Jul-2004	4.00	Chemo	0.00	0.00
25.00	0.00	68.98	1.00	oesoph	0.00	adeno	0.00	21-Nov-2001	4.00	Chemo	0.00	0.00
26.00	0.00	70.14	1.00	o/g	0.00	adeno	0.00	02-May-2001	3.00	Chemo	0.00	0.00
27.00	0.00	58.80	0.00	oesoph	0.00	adeno	0.00	02-Jan-2001	2.00	Chemo	0.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
28.00	0.00	65.74	0.00	oesoph	0.00	squam	1.00	30-Jan-2001	4.00	Chemo	0.00	0.00
29.00	1.00	56.33	0.00	oesoph	0.00	adeno	0.00	08-Aug-2002	4.00	Chemo/DXT	0.00	0.00
30.00	0.00	63.35	0.00	oesoph	0.00	squam	1.00	28-Jul-2000	4.00	Chemo/DXT	0.00	0.00
31.00	0.00	71.32	1.00	oesoph	0.00	squam	1.00	17-Dec-2002	2.00	Chemo/DXT	0.00	0.00
32.00	0.00	76.64	2.00	o/g	0.00	adeno	0.00	01-Oct-2001	4.00	Chemo/DXT	0.00	0.00
33.00	0.00	64.54	0.00	oesoph	0.00	squam	1.00	12-Jun-2001	3.00	Chemo/DXT	0.00	0.00
34.00	1.00	76.03	2.00	oesoph	0.00	adeno	0.00	14-May-2002	1.00	Chemo/DXT	0.00	0.00
35.00	0.00	62.65	0.00	oesoph	0.00	squam	1.00	08-Aug-2001	3.00	Chemo/DXT	0.00	0.00
36.00	0.00	71.68	1.00	oesoph	0.00	squam	1.00	04-Sep-2003	1.00	Chemo/DXT	0.00	0.00
37.00	0.00	65.47	0.00	oesoph	0.00	squam	1.00	22-May-2003	3.00	Chemo/DXT	0.00	0.00
38.00	0.00	54.48	0.00	oesoph	0.00	squam	1.00	30-Mar-2000	3.00	Chemo/DXT	0.00	0.00
39.00	1.00	68.45	1.00	oesoph	0.00	squam	1.00	20-Nov-2003	3.00	Chemo/DXT	0.00	0.00
40.00	0.00	48.11	0.00	oesoph	0.00	adeno	0.00	27-Feb-2003	4.00	Chemo/DXT	0.00	0.00
41.00	0.00	75.35	2.00	oesoph	0.00	adeno	0.00	19-Feb-2004	3.00	Chemo/DXT	0.00	0.00
42.00	0.00	60.92	0.00	oesoph	0.00	adeno	0.00	31-Dec-2002	3.00	Chemo/DXT	0.00	0.00
43.00	0.00	60.24	0.00	oesoph	0.00	squam	1.00	04-Aug-2003	4.00	Chemo/DXT	0.00	0.00
44.00	0.00	65.72	0.00	oesoph	0.00	squam	1.00	06-Jan-2004	4.00	Chemo/DXT	0.00	0.00
45.00	0.00	72.32	1.00	oesoph	0.00	squam	1.00	22-Dec-2003	3.00	Chemo/DXT	0.00	0.00
46.00	0.00	56.18	0.00	oesoph	0.00	squam	1.00	06-May-2003	3.00	Chemo/DXT	0.00	0.00
47.00	0.00	60.74	0.00	oesoph	0.00	squam	1.00	15-Mar-2004	4.00	Chemo/DXT	0.00	0.00
48.00	0.00	76.35	2.00	oesoph	0.00	adeno	0.00	28-Jun-2002	4.00	Chemo/DXT	0.00	0.00
49.00	1.00	73.96	1.00	oesoph	0.00	squam	1.00	18-Sep-2001	3.00	Chemo/DXT	0.00	0.00
50.00	0.00	52.72	0.00	oesoph	0.00	squam	1.00	24-Dec-2002	1.00	Chemo/DXT	0.00	0.00
51.00	1.00	56.62	0.00	oesoph	0.00	squam	1.00	26-Oct-2001	3.00	Chemo/DXT	0.00	0.00
52.00	0.00	70.35	1.00	oesoph	0.00	squam	1.00	04-Dec-2001	4.00	Chemo/DXT	0.00	0.00
53.00	0.00	67.88	1.00	oesoph	0.00	squam	1.00	16-Oct-2001	3.00	Chemo/DXT	0.00	0.00
54.00	0.00	69.23	1.00	oesoph	0.00	squam	1.00	14-Jan-2004	4.00	Chemo/DXT	0.00	0.00
55.00	0.00	56.48	0.00	oesoph	0.00	adeno	0.00	04-Oct-2001	3.00	Chemo/DXT	0.00	0.00
56.00	1.00	55.16	0.00	oesoph	0.00	squam	1.00	20-Aug-2003	3.00	Chemo/DXT	0.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
57.00	0.00	62.56	0.00	o/g	0.00	adeno	0.00	05-Mar-2004	4.00	Chemo/DXT	0.00	0.00
58.00	0.00	72.68	1.00	oesoph	0.00	adeno	0.00	14-Jan-2004	3.00	Chemo/DXT	0.00	0.00
59.00	1.00	82.11	2.00	oesoph	0.00	squam	1.00	30-Nov-2004	3.00	Chemo/DXT	0.00	0.00
60.00	0.00	82.31	2.00	oesoph	0.00	adeno	0.00	01-Oct-2002	3.00	Chemo/DXT	0.00	0.00
61.00	1.00	56.91	0.00	oesoph	0.00	squam	1.00	08-Apr-2004	4.00	Chemo/DXT	0.00	0.00
62.00	1.00	54.34	0.00	oesoph	0.00	squam	1.00	05-Mar-2002	4.00	Chemo/DXT	0.00	0.00
63.00	1.00	84.12	2.00	oesoph	0.00	squam	1.00	20-Feb-2001	2.00	DXT	1.00	0.00
64.00	0.00	80.21	2.00	oesoph	0.00	squam	1.00	04-Apr-2000	1.00	DXT	1.00	0.00
65.00	0.00	71.91	1.00	oesoph	0.00	squam	1.00	26-Nov-2002	4.00	DXT	1.00	0.00
66.00	0.00	78.48	2.00	oesoph	0.00	squam	1.00	13-Apr-2004	3.00	DXT	1.00	0.00
67.00	0.00	76.22	2.00	oesoph	0.00	adeno	0.00	22-Jul-2003	3.00	DXT	1.00	0.00
68.00	0.00	51.85	0.00	oesoph	0.00	adeno	0.00	10-Dec-2002	4.00	DXT	1.00	0.00
69.00	0.00	55.67	0.00	oesoph	0.00	adeno	0.00	20-Oct-2003	4.00	DXT	1.00	0.00
70.00	0.00	73.47	1.00	oesoph	0.00	squam	1.00	26-Oct-2004	3.00	DXT	1.00	0.00
71.00	1.00	81.79	2.00	oesoph	0.00	squam	1.00	29-Mar-2004	2.00	DXT	1.00	0.00
72.00	0.00	54.42	0.00	o/g	0.00	adeno	0.00	13-Mar-2000	4.00	DXT	1.00	0.00
73.00	1.00	75.39	2.00	oesoph	0.00	adeno	0.00	13-Nov-2001	3.00	DXT	1.00	0.00
74.00	0.00	79.25	2.00	oesoph	0.00	adeno	0.00	30-Aug-2004	2.00	DXT	1.00	0.00
75.00	1.00	82.43	2.00	oesoph	0.00	squam	1.00	15-Jan-2003	1.00	DXT	1.00	0.00
76.00	1.00	66.67	1.00	oesoph	0.00	adeno	0.00	26-Nov-2004	4.00	DXT	1.00	0.00
77.00	0.00	65.16	0.00	oesoph	0.00	squam	1.00	23-Apr-2003	3.00	DXT	1.00	0.00
78.00	1.00	61.31	0.00	oesoph	0.00	squam	1.00	20-Aug-2002	4.00	DXT	1.00	0.00
79.00	0.00	80.23	2.00	oesoph	0.00	squam	1.00	25-Jun-2002	4.00	DXT	1.00	0.00
80.00	0.00	67.02	1.00	oesoph	0.00	squam	1.00	03-Mar-2003	4.00	DXT	1.00	0.00
81.00	1.00	71.65	1.00	oesoph	0.00	squam	1.00	11-Jun-2003	3.00	DXT & Laser	1.00	0.00
82.00	1.00	84.17	2.00	oesoph	0.00	adeno	0.00	05-Nov-2004	3.00	DXT & Laser	1.00	0.00
83.00	0.00	65.40	0.00	oesoph	0.00	squam	1.00	18-Jun-2002	4.00	DXT & Laser	1.00	0.00
84.00	0.00	81.18	2.00	oesoph	0.00	adeno	0.00	16-Oct-2003	3.00	DXT & Laser	1.00	0.00
85.00	1.00	76.94	2.00	oesoph	0.00	adeno	0.00	27-Nov-2000	2.00	DXT & Laser	1.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
86.00	1.00	82.10	2.00	oesoph	0.00	squam	1.00	05-Jul-2002	1.00	DXT & Laser	1.00	0.00
87.00	0.00	86.97	2.00	oesoph	0.00	squam	1.00	08-Aug-2004	3.00	DXT & Laser	1.00	0.00
88.00	0.00	75.06	2.00	oesoph	0.00	adeno	0.00	31-Jan-2003	3.00	DXT & Laser	1.00	0.00
89.00	1.00	81.41	2.00	oesoph	0.00	squam	1.00	18-Dec-2001	2.00	DXT& Laser	1.00	0.00
90.00	0.00	67.91	1.00	oesoph	0.00	squam	1.00	28-Jun-2000	4.00	DXT/Stent	1.00	0.00
91.00	0.00	88.10	2.00	oesoph	0.00	adeno	0.00	28-May-2002	3.00	Laser	2.00	0.00
92.00	0.00	75.64	2.00	oesoph	0.00	adeno	0.00	16-Sep-2002	3.00	Laser	2.00	0.00
93.00	1.00	74.66	1.00	oesoph	0.00	adeno	0.00	22-Jun-2001	1.00	Laser	2.00	0.00
94.00	1.00	67.09	1.00	oesoph	0.00	adeno	0.00	27-Mar-2000	1.00	Laser	2.00	0.00
95.00	0.00	75.50	2.00	o/g	0.00	adeno	0.00	30-Jul-2001	3.00	Laser	2.00	0.00
96.00	0.00	74.82	1.00	oesoph	0.00	adeno	0.00	10-Sep-2002	2.00	Laser	2.00	0.00
97.00	1.00	81.87	2.00	oesoph	0.00	adeno	0.00	20-Jun-2001	2.00	Laser	2.00	0.00
98.00	1.00	68.18	1.00	oesoph	0.00	adeno	0.00	24-Mar-2000	4.00	Laser	2.00	0.00
99.00	0.00	74.00	1.00	oesoph	0.00	adeno	0.00	01-Feb-2000	3.00	Laser	2.00	0.00
100.00	0.00	81.99	2.00	oesoph	0.00	adeno	0.00	01-Nov-2001	3.00	Laser	2.00	0.00
101.00	0.00	75.39	2.00	oeosph	0.00	squam	1.00	17-Jun-2002	4.00	Laser	2.00	0.00
102.00	0.00	72.57	1.00	oesoph	0.00	squam	1.00	29-Feb-2004	3.00	Laser	2.00	0.00
103.00	1.00	84.39	2.00	oesoph	0.00	adeno	0.00	05-Feb-2002	4.00	Laser	2.00	0.00
104.00	1.00	86.71	2.00	oesoph	0.00	adeno	0.00	19-Mar-2004	2.00	Laser	2.00	0.00
105.00	1.00	67.63	1.00	o/g	0.00	adeno	0.00	13-Mar-2000	4.00	Laser	2.00	0.00
106.00	1.00	81.36	2.00	oesoph	0.00	adeno	0.00	26-Nov-2002	1.00	Laser	2.00	0.00
107.00	0.00	81.61	2.00	o/g	0.00	adeno	0.00	29-Oct-2002	1.00	Laser	2.00	0.00
108.00	1.00	82.73	2.00	oesoph	0.00	adeno	0.00	07-May-2003	4.00	Laser	2.00	0.00
109.00	1.00	78.32	2.00	oesoph	0.00	squam	1.00	28-Mar-2003	3.00	Laser	2.00	0.00
110.00	0.00	82.98	2.00	oesoph	0.00	adeno	0.00	03-Sep-2004	4.00	Laser	2.00	0.00
111.00	0.00	79.00	2.00	oesoph	0.00	adeno	0.00	10-Nov-2004	3.00	Laser	2.00	0.00
112.00	0.00	65.53	0.00	oesoph	0.00	adeno	0.00	23-Apr-2002	2.00	Laser	2.00	0.00
113.00	1.00	66.59	1.00	oesoph	0.00	squam	1.00	14-Jul-2000	3.00	None	4.00	1.00
114.00	1.00	70.21	1.00	oesoph	0.00	adeno	0.00	10-Mar-2004	4.00	None	4.00	1.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
115.00	0.00	79.52	2.00	oesoph	0.00	squam	1.00	30-Jul-2004	4.00	None	4.00	1.00
116.00	0.00	82.16	2.00	oesoph	0.00	squam	1.00	27-Sep-2002	4.00	None	4.00	1.00
117.00	0.00	82.54	2.00	oesoph	0.00	squam	1.00	24-Sep-2004	4.00	None	4.00	1.00
118.00	0.00	73.97	1.00	oesoph	0.00	adeno	0.00	21-Mar-2000	4.00	None	4.00	1.00
119.00	0.00	66.57	1.00	oesoph	0.00	squam	1.00	09-Apr-2002	4.00	None	4.00	1.00
120.00	0.00	69.73	1.00	o/g	0.00	adeno	0.00	14-Mar-2000	4.00	None	4.00	1.00
121.00	0.00	69.98	1.00	oesoph	0.00	adeno	0.00	10-May2004	3.00	by-pass	3.00	1.00
122.00	1.00	81.79	2.00	oesoph	0.00	adeno	0.00	26-Mar-2002	2.00	Stent	3.00	1.00
123.00	0.00	64.80	0.00	oesoph	0.00	adeno	0.00	11-Oct-2002	4.00	Stent	3.00	1.00
124.00	1.00	82.59	2.00	oesoph	0.00	squam	1.00	17-Dec-2002	3.00	Stent	3.00	1.00
125.00	0.00	75.17	2.00	oesoph	0.00	squam	1.00	14-Oct-2004	3.00	Stent	3.00	1.00
126.00	0.00	77.15	2.00	oesoph	0.00	squam	1.00	12-Apr-2002	3.00	Stent	3.00	1.00
127.00	1.00	81.04	2.00	oesoph	0.00	adeno	0.00	27-Jan-2000	2.00	Stent	3.00	1.00
128.00	0.00	79.78	2.00	oesoph	0.00	adeno	0.00	28-Jan-2002	3.00	Stent	3.00	1.00
129.00	0.00	77.69	2.00	oesoph	0.00	squam	1.00	04-Jun-2004	4.00	Stent	3.00	1.00
130.00	1.00	64.25	0.00	oesoph	0.00	squam	1.00	12-Jan-2000	4.00	Stent	3.00	1.00
131.00	1.00	94.03	2.00	oesoph	0.00	adeno	0.00	16-Jan-2004	2.00	Stent	3.00	1.00
132.00	0.00	88.54	2.00	oesoph	0.00	squam	1.00	09-Oct-2002	3.00	Stent	3.00	1.00
133.00	0.00	74.88	1.00	oesoph	0.00	squam	1.00	15-Feb-2000	3.00	Stent	3.00	1.00
134.00	0.00	73.52	1.00	oeosph	0.00	squam	1.00	10-Oct-2001	3.00	Stent	3.00	1.00
135.00	1.00	75.56	2.00	oesoph	0.00	squam	1.00	20-Oct-2004	3.00	Stent	3.00	1.00
136.00	1.00	94.07	2.00	oesoph	0.00	squam	1.00	11-Sep-2001	4.00	Stent	3.00	1.00
137.00	1.00	75.61	2.00	oesoph	0.00	squam	1.00	02-Apr-2001	2.00	Stent	3.00	1.00
138.00	0.00	87.56	2.00	oesoph	0.00	squam	1.00	03-Jul-2001	2.00	Stent	3.00	1.00
139.00	0.00	61.07	0.00	oesoph	0.00	adeno	0.00	29-Apr-2000	4.00	Stent	3.00	1.00
140.00	0.00	64.48	0.00	oesoph	0.00	squam	1.00	11-Jan-2000	4.00	Stent	3.00	1.00
141.00	0.00	70.88	1.00	oesoph	0.00	squam	1.00	27-Oct-2000	3.00	Stent& Chemo	0.00	0.00
142.00	1.00	68.99	1.00	oesoph	0.00	squam	1.00	23-Apr-2003	3.00	T DXT	1.00	0.00
143.00	0.00	59.88	0.00	o/g	1.00	adeno	0.00	03-Dec-2004	4.00	CH/DXT	0.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
144.00	1.00	54.36	0.00	gastric	1.00	adeno	0.00	06-Dec-2004	4.00	Chemo	0.00	0.00
145.00	1.00	61.79	0.00	gastric	1.00	adeno	0.00	08-Oct-2002	4.00	Chemo	0.00	0.00
146.00	1.00	34.01	0.00	gastric	1.00	adeno	0.00	07-Dec-2001	4.00	Chemo	0.00	0.00
147.00	1.00	42.09	0.00	gastric	1.00	adeno	0.00	23-Jan-2003	4.00	Chemo	0.00	0.00
148.00	0.00	67.62	1.00	gastric	1.00	adeno	0.00	10-Jul-2001	4.00	Chemo	0.00	0.00
149.00	0.00	69.49	1.00	gastric	1.00	adeno	0.00	26-Feb-2002	4.00	Chemo	0.00	0.00
150.00	1.00	63.99	0.00	gastric	1.00	adeno	0.00	12-Nov-2002	1.00	Chemo	0.00	0.00
151.00	0.00	73.47	1.00	gastric	1.00	adeno	0.00	16-Jul-2004	4.00	Chemo	0.00	0.00
152.00	1.00	65.05	0.00	gastric	1.00	adeno	0.00	01-Dec-2003	4.00	Chemo	0.00	0.00
153.00	0.00	65.38	0.00	gastric	1.00	adeno	0.00	21-Feb-2002	3.00	Chemo	0.00	0.00
154.00	0.00	43.64	0.00	o/g	1.00	adeno	0.00	29-Jul-2004	4.00	Chemo	0.00	0.00
155.00	1.00	53.29	0.00	gastric	1.00	adeno	0.00	24-Feb-2004	4.00	Chemo	0.00	0.00
156.00	0.00	57.72	0.00	gastric	1.00	adeno	0.00	12-Apr-2002	2.00	Chemo	0.00	0.00
157.00	0.00	54.62	0.00	gastric	1.00	adeno	0.00	19-Jun-2003	4.00	Chemo	0.00	0.00
158.00	1.00	63.74	0.00	gastric	1.00	adeno	0.00	06-Jul-2004	4.00	Chemo	0.00	0.00
159.00	0.00	42.48	0.00	o/g	1.00	adeno	0.00	17-Sep-2004	4.00	Chemo	0.00	0.00
160.00	0.00	46.92	0.00	gastric	1.00	adeno	0.00	02-Mar-2002	4.00	Chemo	0.00	0.00
161.00	0.00	43.31	0.00	o/g	1.00	adeno	0.00	06-Jan-2003	4.00	Chemo	0.00	0.00
162.00	0.00	71.71	1.00	gastric	1.00	adeno	0.00	30-Jul-2004	4.00	Chemo	0.00	0.00
163.00	0.00	44.99	0.00	gastric	1.00	adeno	0.00	01-Mar-2002	4.00	Chemo	0.00	0.00
164.00	1.00	76.88	2.00	o/g	1.00	adeno	0.00	23-Mar-2004	4.00	Chemo	0.00	0.00
165.00	1.00	41.38	0.00	gastric	1.00	adeno	0.00	14-Jun-2004	4.00	Chemo	0.00	0.00
166.00	0.00	52.05	0.00	o/g	1.00	adeno	0.00	05-Jun-2003	4.00	Chemo&Laser	0.00	0.00
167.00	1.00	76.62	2.00	gastric	1.00	adeno	0.00	19-Dec-2003	3.00	Chemo&Laser	0.00	0.00
168.00	0.00	76.19	2.00	gastric	1.00	adeno	0.00	30-May-2003	4.00	Chemo&Laser	0.00	0.00
169.00	1.00	76.56	2.00	gastric	1.00	adeno	0.00	24-Apr-2001	2.00	Chemo/DXT	0.00	0.00
170.00	0.00	78.84	2.00	o/g	1.00	adeno	0.00	30-Oct-2001	4.00	Chemo/DXT	0.00	0.00
171.00	0.00	74.54	1.00	gastric	1.00	adeno	0.00	08-Jan-2002	4.00	Chemo/DXT	0.00	0.00
172.00	0.00	60.26	0.00	gastric	1.00	adeno	0.00	10-Jun-2002	4.00	Chemo/DXT	0.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
173.00	0.00	55.01	0.00	gastric	1.00	adeno	0.00	13-Mar-2002	3.00	Chemo/DXT	0.00	0.00
174.00	0.00	74.95	1.00	o/g	1.00	adeno	0.00	14-Sep-2004	3.00	Chemo/DXT	0.00	0.00
175.00	0.00	56.00	0.00	gastric	1.00	adeno	0.00	19-Oct-2001	4.00	Chemo/DXT	0.00	0.00
176.00	0.00	74.54	1.00	gastric	1.00	adeno	0.00	05-May-2004	4.00	Chemo/DXT	0.00	0.00
177.00	1.00	33.71	0.00	gastric	1.00	adeno	0.00	06-Dec-2001	4.00	Chemo/DXT	0.00	0.00
178.00	1.00	46.43	0.00	o/g	1.00	adeno	0.00	20-Jul-2001	4.00	Chemo/DXT	0.00	0.00
179.00	0.00	69.81	1.00	gastric	1.00	adeno	0.00	30-Nov-2004	3.00	Chemo/DXT	0.00	0.00
180.00	1.00	47.14	0.00	gastric	1.00	adeno	0.00	09-Sep-2003	4.00	Chemo/DXT	0.00	0.00
181.00	1.00	73.42	1.00	gastric	1.00	adeno	0.00	23-Oct-2001	4.00	Chemo/DXT	0.00	0.00
182.00	0.00	62.12	0.00	gastric	1.00	adeno	0.00	30-Dec-2004	4.00	DXT	1.00	0.00
183.00	0.00	63.53	0.00	gastric	1.00	adeno	0.00	16-Jul-2004	4.00	DXT	1.00	0.00
184.00	1.00	63.67	0.00	gastric	1.00	adeno	0.00	07-Dec-2004	4.00	DXT	1.00	0.00
185.00	1.00	68.39	1.00	gastric	1.00	adeno	0.00	22-Jun-2004	2.00	DXT	1.00	0.00
186.00	0.00	56.78	0.00	gastric	1.00	adeno	0.00	16-Jan-2002	4.00	gastro-jej	3.00	1.00
187.00	1.00	43.82	0.00	gastric	1.00	adeno	0.00	21-May-2002	3.00	gastro-jej	3.00	1.00
188.00	0.00	45.28	0.00	gastric	1.00	adeno	0.00	10-Jan-2001	4.00	gastro-jej	3.00	1.00
189.00	0.00	69.71	1.00	gastric	1.00	adeno	0.00	09-Jun-2000	4.00	gastro-jej	3.00	1.00
190.00	0.00	64.93	0.00	gastric	1.00	adeno	0.00	30-Apr-2003	4.00	gastro-jej	3.00	1.00
191.00	1.00	57.48	0.00	gastric	1.00	adeon	0.00	22-Feb-2002	4.00	gastro-jej	3.00	1.00
192.00	0.00	83.79	2.00	gastric	1.00	adeno	0.00	20-Mar-2000	1.00	Laser	2.00	0.00
193.00	1.00	72.34	1.00	gastric	1.00	adeno	0.00	25-Jul-2000	3.00	Laser	2.00	0.00
194.00	0.00	79.99	2.00	o/g	1.00	adeno	0.00	09-Jun-2003	3.00	Laser	2.00	0.00
195.00	1.00	80.68	2.00	gastric	1.00	adeno	0.00	03-Nov-2003	1.00	Laser	2.00	0.00
196.00	0.00	75.63	2.00	gastric	1.00	adeno	0.00	25-Jun-2004	2.00	Laser	2.00	0.00
197.00	0.00	78.31	2.00	gastric	1.00	adeno	0.00	26-Nov-2001	1.00	Laser	2.00	0.00
198.00	0.00	76.04	2.00	gastric	1.00	adeno	0.00	01-Jul-2003	1.00	Laser	2.00	0.00
199.00	0.00	63.56	0.00	o/g	1.00	adeno	0.00	23-Aug-2004	4.00	Laser	2.00	0.00
200.00	1.00	82.97	2.00	gastric	1.00	adeno	0.00	02-Mar-2001	4.00	Laser	2.00	0.00
201.00	0.00	81.80	2.00	gastric	1.00	adeno	0.00	29-Jan-2003	1.00	Laser	2.00	0.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
202.00	1.00	86.61	2.00	o/g	1.00	adeno	0.00	21-Mar-2000	1.00	Laser	2.00	0.00
203.00	1.00	82.75	2.00	gastric	1.00	adeno	0.00	06-Jan-2004	4.00	Laser	2.00	0.00
204.00	0.00	83.03	2.00	o/g	1.00	adeno	0.00	27-Feb-2004	4.00	Laser	2.00	0.00
205.00	0.00	85.40	2.00	gastric	1.00	adeno	0.00	21-Jun-2001	1.00	Laser	2.00	0.00
206.00	0.00	57.03	0.00	gastric	1.00	adeno	0.00	08-Jun-2000	4.00	Laser	2.00	0.00
207.00	0.00	81.26	2.00	gastric	1.00	adeno	0.00	22-Jul-2003	1.00	Laser	2.00	0.00
208.00	0.00	68.48	1.00	gastric	1.00	adeno	0.00	24-Sep-2003	4.00	Laser	2.00	0.00
209.00	0.00	76.76	2.00	o/g	1.00	adeno	0.00	09-Sep-2003	1.00	Laser	2.00	0.00
210.00	1.00	78.98	2.00	gastric	1.00	adeno	0.00	26-Apr-2000	4.00	Laser	2.00	0.00
211.00	0.00	48.56	0.00	gastric	1.00	adeno	0.00	01-May-2002	4.00	Laser	2.00	0.00
212.00	0.00	84.30	2.00	gastric	1.00	adeno	0.00	06-Nov-2001	4.00	Laser	2.00	0.00
213.00	0.00	82.93	2.00	o/g	1.00	adeno	0.00	21-Oct-2002	4.00	Laser	2.00	0.00
214.00	0.00	76.85	2.00	gastric	1.00	adeno	0.00	16-Jun-2000	4.00	Laser	2.00	0.00
215.00	0.00	89.10	2.00	gastric	1.00	adeno	0.00	05-Jan-2001	1.00	Laser	2.00	0.00
216.00	0.00	81.08	2.00	gastric	1.00	adeno	0.00	11-Oct-2004	1.00	Laser	2.00	0.00
217.00	1.00	89.19	2.00	gastric	1.00	adeno	0.00	12-Aug-2002	4.00	Laser	2.00	0.00
218.00	1.00	71.28	1.00	gastric	1.00	adeno	0.00	05-Jul-2002	4.00	Laser	2.00	0.00
219.00	1.00	81.07	2.00	gastric	1.00	adeno	0.00	04-May-2004	2.00	Laser	2.00	0.00
220.00	0.00	79.14	2.00	o/g	1.00	adeno	0.00	01-Apr-2004	4.00	Laser	2.00	0.00
221.00	1.00	76.32	2.00	gastric	1.00	adeno	0.00	06-Aug-2001	1.00	Laser	2.00	0.00
222.00	0.00	60.06	0.00	gastric	1.00	adeno	0.00	20-Oct-2004	1.00	Laser	2.00	0.00
223.00	0.00	84.36	2.00	gastric	1.00	adeno	0.00	22-Oct-2004	1.00	Laser	2.00	0.00
224.00	1.00	77.57	2.00	o/g	1.00	adeno	0.00	06-Nov-2001	4.00	Laser	2.00	0.00
225.00	0.00	71.32	1.00	gastric	1.00	adeno	0.00	13-May-2004	1.00	Laser	2.00	0.00
226.00	0.00	79.90	2.00	gastric	1.00	adeno	0.00	09-Apr-2001	1.00	Laser	2.00	0.00
227.00	0.00	72.27	1.00	gastric	1.00	adeno	0.00	09-Jul-2003	4.00	Laser	2.00	0.00
228.00	0.00	76.24	2.00	gastric	1.00	adeno	0.00	05-Oct-2001	3.00	Laser	2.00	0.00
229.00	1.00	75.35	2.00	gastric	1.00	adeno	0.00	27-Jun-2001	4.00	Laser	2.00	0.00
230.00	0.00	59.00	0.00	gastric	1.00	adeno	0.00	11-Oct-2000	4.00	None	4.00	1.00

Patient	m0f1	age	agecd	Site	o0g1	histolog	typecd	date of endo	stage	treatment	treatcd	actpall
231.00	1.00	62.52	0.00	gastric	1.00	adeno	0.00	23-Aug-2002	4.00	None	4.00	1.00
232.00	1.00	84.38	2.00	gastric	1.00	adeno	0.00	05-Jul-2000	4.00	None	4.00	1.00
233.00	0.00	81.02	2.00	o/g	1.00	adeno	0.00	02-Sep-2004	4.00	None	4.00	1.00
234.00	0.00	78.85	2.00	gastric	1.00	adeno	0.00	12-Sep-2003	3.00	None	4.00	1.00
235.00	1.00	78.92	2.00	gastric	1.00	adeno	0.00	23-Nov-2004	4.00	None	4.00	1.00
236.00	1.00	46.58	0.00	gastric	1.00	adeno	0.00	07-Dec-2004	4.00	None	4.00	1.00
237.00	1.00	85.61	2.00	gastric	1.00	adeno	0.00	04-Aug-2003	4.00	None	4.00	1.00
238.00	0.00	83.97	2.00	gastric	1.00	adeno	0.00	28-Apr-2000	1.00	None	4.00	1.00
239.00	0.00	70.50	1.00	o/g	1.00	adeno	0.00	27-Jul-2001	4.00	None	4.00	1.00
240.00	1.00	66.95	1.00	gastric	1.00	adeno	0.00	30-Aug-2002	1.00	None	4.00	1.00
241.00	1.00	63.49	0.00	gastric	1.00	adeno	0.00	04-May-2001	4.00	None	4.00	1.00
242.00	1.00	82.80	2.00	gastric	1.00	adeno	0.00	21-Nov-2000	2.00	None	4.00	1.00
243.00	0.00	30.19	0.00	o/g	1.00	adeno	0.00	16-Oct-2003	4.00	None	4.00	1.00
244.00	0.00	75.98	2.00	gastric	1.00	adeno	0.00	24-Aug-2004	4.00	None	4.00	1.00
245.00	0.00	77.28	2.00	gastric	1.00	adeno	0.00	07-Mar-2003	4.00	None	4.00	1.00
246.00	1.00	78.79	2.00	gastric	1.00	adeno	0.00	10-Jun-2002	4.00	None	4.00	1.00
247.00	0.00	73.96	1.00	gastric	1.00	adeno	0.00	18-Nov-2003	4.00	None	4.00	1.00
248.00	0.00	73.94	1.00	gastric	1.00	adeno	0.00	14-Oct-2003	4.00	None	4.00	1.00
249.00	1.00	74.99	1.00	gastric	1.00	adeno	0.00	04-Dec-2003	4.00	None	4.00	1.00
250.00	1.00	60.28	0.00	o/g	1.00	adeno	0.00	08-Aug-2000	4.00	None	4.00	1.00
251.00	0.00	81.02	2.00	o/g	1.00	adeno	0.00	26-Jul-2001	4.00	None	4.00	1.00
252.00	1.00	79.70	2.00	o/g	1.00	adeno	0.00	18-Apr-2000	4.00	None	4.00	1.00
253.00	0.00	76.34	2.00	gastric	1.00	adeno	0.00	26-Mar-2004	4.00	None	4.00	1.00
254.00	1.00	62.27	0.00	gastric	1.00	adeno	0.00	09-May-2003	4.00	None	4.00	1.00
255.00	0.00	42.06	0.00	gastric	1.00	adeno	0.00	17-Mar-2004	4.00	None	4.00	1.00
256.00	1.00	77.36	2.00	gastric	1.00	adeno	0.00	07-Dec-2004	3.00	Stent	3.00	1.00
257.00	0.00	92.45	2.00	gastric	1.00	adeno	0.00	23-Dec-2003	2.00	Stent	3.00	1.00
258.00	0.00	70.29	1.00	o/g	1.00	adeno	0.00	09-Oct-2001	4.00	Stent	3.00	1.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
1.00	ALIVE		0.00	30-Jun-2005	8.50	56.00	1.00	36.00	0.00	1.00	207.00	0.00
2.00	DEAD	cancer	1.00	18-Apr-2005	17.43	15.00	1.00	39.00	0.00	1.00	162.00	0.00
3.00	ALIVE		0.00	30-Jun-2005	40.80	1.00	0.00	43.00	0.00	0.00	19.00	0.00
4.00	ALIVE		0.00	30-Jun-2005	9.07	10.00	0.00	40.00	0.00	0.00	139.00	0.00
5.00	DEAD	cancer	1.00	13-Dec-2003	3.43	22.00	1.00	34.00	1.00	2.00	153.00	0.00
6.00	ALIVE		0.00	30-Jun-2005	9.53	56.00	1.00	46.00	0.00	1.00	157.00	0.00
7.00	DEAD	renal	2.00	29-Mar-2003	5.73	1.00	0.00	36.00	0.00	0.00	166.00	0.00
8.00	DEAD	cancer	1.00	27-Feb-2005	19.27	9.00	0.00	46.00	0.00	0.00	184.00	0.00
9.00	DEAD	cancer	1.00	30-Apr-2005	15.50	28.00	1.00	47.00	0.00	1.00	189.00	0.00
10.00	DEAD	cancer	1.00	29-Jun-2003	19.00	36.00	1.00	40.00	0.00	1.00	189.00	0.00
11.00	DEAD	cancer	1.00	01-Feb-2005	10.50	1.00	0.00	43.00	0.00	0.00	191.00	0.00
12.00	DEAD	cancer	1.00	23-Sep-2004	21.77	1.00	0.00	43.00	0.00	0.00	191.00	0.00
13.00	DEAD	cancer	1.00	24-Oct-2002	11.47	12.00	1.00	37.00	0.00	1.00	199.00	0.00
14.00	DEAD	cancer	1.00	03-Nov-2004	2.63	36.00	1.00	35.00	0.00	1.00	215.00	0.00
15.00	DEAD	cancer	1.00	30-May-2003	13.63	1.00	0.00	40.00	0.00	0.00	235.00	0.00
16.00	DEAD	cancer	1.00	23-Aug-2004	7.20	27.00	1.00	40.00	0.00	1.00	237.00	0.00
17.00	DEAD	cancer	1.00	20-Nov-2002	11.37	1.00	0.00	44.00	0.00	0.00	258.00	0.00
18.00	ALIVE		0.00	30-Jun-2005	6.37	8.00	0.00	50.00	0.00	0.00	271.00	0.00
19.00	ALIVE		0.00	30-Jun-2005	10.07	32.00	1.00	32.00	1.00	2.00	295.00	1.00
20.00	DEAD	cancer	1.00	01-Sep-2002	18.83	12.00	1.00	42.00	0.00	1.00	385.00	1.00
21.00	DEAD	cardiac	2.00	25-May-2004	11.87	42.00	1.00	38.00	0.00	1.00	411.00	1.00
22.00	DEAD	cancer	1.00	11-Dec-2001	6.07	69.00	1.00	41.00	0.00	1.00	630.00	1.00
23.00	DEAD	cancer	1.00	21-Jul-2004	0.93	217.00	1.00	43.00	0.00	1.00	645.00	1.00
24.00	ALIVE		0.00	30-Jun-2005	11.27	1.00	0.00	40.00	0.00	0.00	148.00	0.00
25.00	DEAD	cancer	1.00	02-Apr-2002	4.40	70.00	1.00	36.00	0.00	1.00	1,479.00	1.00
26.00	DEAD	cancer	1.00	08-Mar-2003	22.50	18.00	1.00	45.00	0.00	1.00	135.00	0.00
27.00	ALIVE		0.00	30-Jun-2005	54.67	1.00	0.00	39.00	0.00	0.00	135.00	0.00
28.00	DEAD	cancer	1.00	13-Dec-2001	10.57	30.00	1.00	38.00	0.00	1.00	195.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
29.00	DEAD	cardiac	2.00	23-Jun-2003	10.63	31.00	1.00	47.00	0.00	1.00	99.00	0.00
30.00	DEAD	cancer	1.00	06-Nov-2000	3.37	23.00	1.00	40.00	0.00	1.00	110.00	0.00
31.00	DEAD	cancer	1.00	23-Jul-2004	19.47	72.00	1.00	39.00	0.00	1.00	118.00	0.00
32.00	DEAD	cancer	1.00	03-Jan-2003	15.30	71.00	1.00	35.00	0.00	1.00	122.00	0.00
33.00	DEAD	cancer	1.00	19-Apr-2002	10.37	28.00	1.00	41.00	0.00	1.00	130.00	0.00
34.00	DEAD	cancer	1.00	28-Nov-2002	6.60	1.00	0.00	44.00	0.00	0.00	132.00	0.00
35.00	DEAD	cancer	1.00	13-Sep-2002	13.37	35.00	1.00	36.00	0.00	1.00	135.00	0.00
36.00	DEAD	cancer	1.00	21-Jan-2004	4.63	1.00	0.00	45.00	0.00	0.00	144.00	0.00
37.00	ALIVE		0.00	30-Jun-2005	25.67	1.00	0.00	48.00	0.00	0.00	144.00	0.00
38.00	DEAD	cardiac	2.00	05-May-2000	1.20	1.00	0.00	42.00	0.00	0.00	145.00	0.00
39.00	DEAD	cancer	1.00	01-Oct-2004	10.53	38.00	1.00	34.00	1.00	2.00	164.00	0.00
40.00	DEAD	cancer	1.00	27-Dec-2003	10.10	19.00	1.00	34.00	1.00	2.00	164.00	0.00
41.00	DEAD	cancer	1.00	03-Sep-2004	6.57	1.00	0.00	36.00	0.00	0.00	167.00	0.00
42.00	ALIVE		0.00	30-Jun-2005	30.40	19.00	1.00	41.00	0.00	1.00	168.00	0.00
43.00	DEAD	cancer	1.00	23-Sep-2003	1.67	19.00	1.00	39.00	0.00	1.00	169.00	0.00
44.00	ALIVE		0.00	30-Jun-2005	18.03	1.00	0.00	44.00	0.00	0.00	170.00	0.00
45.00	DEAD	cancer	1.00	07-Jul-2004	6.60	36.00	1.00	43.00	0.00	1.00	171.00	0.00
46.00	ALIVE		0.00	30-Jun-2005	26.20	1.00	0.00	38.00	0.00	0.00	183.00	0.00
47.00	ALIVE		0.00	30-Jun-2005	15.73	1.00	0.00	39.00	0.00	0.00	188.00	0.00
48.00	DEAD	cancer	1.00	08-Mar-2003	8.43	1.00	0.00	42.00	0.00	0.00	192.00	0.00
49.00	DEAD	cancer	1.00	27-Nov-2001	2.33	12.00	1.00	46.00	0.00	1.00	195.00	0.00
50.00	ALIVE		0.00	30-Jun-2005	30.63	6.00	0.00	46.00	0.00	0.00	197.00	0.00
51.00	DEAD	pneumoni	2.00	17-Jan-2002	2.77	11.00	1.00	36.00	0.00	1.00	197.00	0.00
52.00	DEAD	cancer	1.00	03-May-2002	5.00	10.00	0.00	42.00	0.00	0.00	198.00	0.00
53.00	DEAD	cancer	1.00	14-Feb-2003	16.20	8.00	0.00	46.00	0.00	0.00	204.00	0.00
54.00	DEAD	cancer	1.00	24-Jan-2005	12.53	20.00	1.00	41.00	0.00	1.00	222.00	0.00
55.00	ALIVE		0.00	30-Jun-2005	45.50	44.00	1.00	42.00	0.00	1.00	222.00	0.00
56.00	DEAD	cancer	1.00	17-Jan-2004	5.00	48.00	1.00	45.00	0.00	1.00	225.00	0.00
57.00	ALIVE		0.00	30-Jun-2005	16.07	10.00	0.00	45.00	0.00	0.00	235.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
58.00	DEAD	cancer	1.00	08-Dec-2004	10.97	1.00	0.00	47.00	0.00	0.00	239.00	0.00
59.00	ALIVE		0.00	30-Jun-2005	7.07	11.00	1.00	40.00	0.00	1.00	262.00	0.00
60.00	ALIVE		0.00	30-Jun-2005	33.43	16.00	1.00	40.00	0.00	1.00	322.00	1.00
61.00	ALIVE		0.00	30-Jun-2005	14.93	8.00	0.00	41.00	0.00	0.00	433.00	1.00
62.00	DEAD	cancer	1.00	05-May-2002	2.03	31.00	1.00	40.00	0.00	1.00	769.00	1.00
63.00	DEAD	cancer	1.00	10-Jun-2005	52.37	9.00	0.00	41.00	0.00	0.00		
64.00	DEAD	cancer	1.00	23-Mar-2001	11.77	1.00	0.00	42.00	0.00	0.00	130.00	0.00
65.00	DEAD	cancer	1.00	10-Apr-2003	4.50	50.00	1.00	33.00	1.00	2.00	150.00	0.00
66.00	DEAD	cancer	1.00	10-Apr-2005	12.07	1.00	0.00	43.00	0.00	0.00	160.00	0.00
67.00	DEAD	cancer	1.00	17-Nov-2004	16.13	1.00	0.00	42.00	0.00	0.00	161.00	0.00
68.00	DEAD	cancer	1.00	02-Sep-2003	8.87	12.00	1.00	43.00	0.00	1.00	173.00	0.00
69.00	DEAD	cancer	1.00	12-Oct-2004	11.93	97.00	1.00	43.00	0.00	1.00	176.00	0.00
70.00	ALIVE		0.00	30-Jun-2005	8.23	62.00	1.00	38.00	0.00	1.00	190.00	0.00
71.00	ALIVE		0.00	30-Jun-2005	15.27	1.00	0.00	42.00	0.00	0.00	201.00	0.00
72.00	DEAD	cancer	1.00	26-Oct-2000	7.57	37.00	1.00	40.00	0.00	1.00	215.00	0.00
73.00	DEAD	cancer	1.00	09-Aug-2002	8.97	14.00	1.00	44.00	0.00	1.00	219.00	0.00
74.00	ALIVE		0.00	30-Jun-2005	10.13	1.00	0.00	40.00	0.00	0.00	221.00	0.00
75.00	ALIVE		0.00	30-Jun-2005	29.90	11.00	1.00	39.00	0.00	1.00	227.00	0.00
76.00	ALIVE		0.00	30-Jun-2005	7.20	16.00	1.00	44.00	0.00	1.00	231.00	0.00
77.00	DEAD	cancer	1.00	10-Oct-2003	5.67	64.00	1.00	44.00	0.00	1.00	244.00	0.00
78.00	DEAD	cancer	1.00	12-Mar-2003	6.80	6.00	0.00	43.00	0.00	0.00	271.00	0.00
79.00	DEAD	cancer	1.00	03-Feb-2003	7.43	40.00	1.00	38.00	0.00	1.00	366.00	1.00
80.00	DEAD	cancer	1.00	07-Apr-2003	1.17	275.00	1.00	40.00	0.00	1.00	1,055.00	1.00
81.00	DEAD	cancer	1.00	02-Feb-2004	7.87	51.00	1.00	45.00	0.00	1.00	152.00	0.00
82.00	DEAD	cancer	1.00	18-Apr-2005	5.47	7.00	0.00	36.00	0.00	0.00	177.00	0.00
83.00	DEAD	cancer	1.00	23-Dec-2002	6.27	216.00	1.00	27.00	1.00	2.00	191.00	0.00
84.00	DEAD	cancer	1.00	24-Sep-2004	11.47	16.00	1.00	42.00	0.00	1.00	193.00	0.00
85.00	DEAD	cancer	1.00	02-Sep-2001	9.30	19.00	1.00	45.00	0.00	1.00	205.00	0.00
86.00	DEAD	cancer	1.00	11-Mar-2004	20.50	1.00	0.00	35.00	0.00	0.00	216.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
87.00	DEAD	cancer	1.00	22-Dec-2004	4.53	12.00	1.00	42.00	0.00	1.00	223.00	0.00
88.00	DEAD	cancer	1.00	17-Apr-2003	2.53	17.00	1.00	36.00	0.00	1.00	443.00	1.00
89.00	DEAD	cancer	1.00	29-Jul-2002	7.43	1.00	0.00	41.00	0.00	0.00		
90.00	DEAD	cancer	1.00	27-Jul-2000	0.97	87.00	1.00	34.00	1.00	2.00	240.00	0.00
91.00	DEAD	cancer	1.00	24-Oct-2002	4.97	1.00	0.00	33.00	1.00	1.00	130.00	0.00
92.00	DEAD	cancer	1.00	09-Jun-2003	8.87	25.00	1.00	44.00	0.00	1.00	150.00	0.00
93.00	DEAD	cancer	1.00	02-Mar-2002	8.43	1.00	0.00	40.00	0.00	0.00	155.00	0.00
94.00	DEAD	cancer	1.00	09-May-2004	50.13	1.00	0.00	42.00	0.00	0.00	165.00	0.00
95.00	DEAD	cancer	1.00	21-Jan-2002	5.83	6.00	0.00	42.00	0.00	0.00	175.00	0.00
96.00	DEAD	bleed	2.00	10-May-2003	8.07	1.00	0.00	45.00	0.00	0.00	195.00	0.00
97.00	DEAD	cancer	1.00	07-Jan-2003	18.87	1.00	0.00	43.00	0.00	0.00	195.00	0.00
98.00	DEAD	cancer	1.00	05-Aug-2000	4.47	60.00	1.00	36.00	0.00	1.00	195.00	0.00
99.00	DEAD	cancer	1.00	02-Jun-2001	16.23	1.00	0.00	38.00	0.00	0.00	195.00	0.00
100.00	DEAD	cancer	1.00	27-Jul-2002	8.93	43.00	1.00	43.00	0.00	1.00	198.00	0.00
101.00	DEAD	cancer	1.00	24-Dec-2002	6.33	133.00	1.00	40.00	0.00	1.00	227.00	0.00
102.00	DEAD	cancer	1.00	30-Apr-2004	2.03	39.00	1.00	34.00	1.00	2.00	230.00	0.00
103.00	DEAD	cancer	1.00	28-May-2002	3.73	12.00	1.00	41.00	0.00	1.00	235.00	0.00
104.00	DEAD	cancer	1.00	08-Mar-2005	11.80	17.00	1.00	31.00	1.00	2.00	240.00	0.00
105.00	DEAD	cancer	1.00	31-May-2000	2.63	28.00	1.00	42.00	0.00	1.00	245.00	0.00
106.00	DEAD	cancer	1.00	16-Aug-2004	20.97	1.00	0.00	47.00	0.00	0.00	248.00	0.00
107.00	DEAD	cancer	1.00	03-Sep-2003	10.30	7.00	0.00	43.00	0.00	0.00	324.00	1.00
108.00	DEAD	cancer	1.00	17-Jun-2003	1.37	91.00	1.00	35.00	0.00	1.00	334.00	1.00
109.00	DEAD	cancer	1.00	03-Sep-2004	17.50	122.00	1.00	35.00	0.00	1.00	367.00	1.00
110.00	DEAD	cancer	1.00	05-Nov-2004	2.10	36.00	1.00	33.00	1.00	2.00	424.00	1.00
111.00	ALIVE		0.00	30-Jun-2005	7.73	1.00	0.00	41.00	0.00	0.00	540.00	1.00
112.00	DEAD	cancer	1.00	15-May-2002	0.73	153.00	1.00	22.00	1.00	2.00	610.00	1.00
113.00	DEAD	cancer	1.00	23-Jun-2001	11.47	31.00	1.00	33.00	1.00	2.00	55.00	0.00
114.00	DEAD	pneumo	1.00	26-Mar-2004	0.53	46.00	1.00	37.00	0.00	1.00	116.00	0.00
115.00	DEAD	cancer	1.00	09-Sep-2004	1.37	173.00	1.00	35.00	0.00	1.00	140.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
116.00	DEAD	cancer	1.00	16-Jan-2003	3.70	27.00	1.00	46.00	0.00	1.00	217.00	0.00
117.00	ALIVE		0.00	30-Jun-2005	9.30	162.00	1.00	26.00	1.00	2.00	270.00	0.00
118.00	DEAD	cancer	1.00	08-Apr-2000	0.60	101.00	1.00	24.00	1.00	2.00	445.00	1.00
119.00	DEAD	cancer	1.00	03-May-2002	0.80	37.00	1.00	40.00	0.00	1.00	741.00	1.00
120.00	DEAD	cancer	1.00	07-May-2000	1.80	87.00	1.00	39.00	0.00	1.00	900.00	1.00
121.00	DEAD	cancer	1.00	14-Mar-2005	10.27	1.00	0.00	38.00	0.00	0.00	138.00	0.00
122.00	DEAD	cancer	1.00	16-May-2002	1.70	23.00	1.00	39.00	0.00	1.00	106.00	0.00
123.00	DEAD	cancer	1.00	09-Dec-2002	1.97	14.00	1.00	36.00	0.00	1.00	118.00	0.00
124.00	DEAD	cancer	1.00	08-Jan-2003	0.73	6.00	0.00	45.00	0.00	0.00	134.00	0.00
125.00	DEAD	cancer	1.00	12-Dec-2004	1.97	70.00	1.00	34.00	1.00	2.00	159.00	0.00
126.00	DEAD	cancer	1.00	29-May-2002	1.57	6.00	0.00	36.00	0.00	0.00	160.00	0.00
127.00	DEAD	cancer	1.00	17-Mar-2002	26.00	26.00	1.00	40.00	0.00	1.00	175.00	0.00
128.00	DEAD	cancer	1.00	24-May-2002	3.87	1.00	0.00	35.00	0.00	0.00	178.00	0.00
129.00	DEAD	cancer	1.00	01-Aug-2004	1.93	44.00	1.00	40.00	0.00	1.00	184.00	0.00
130.00	DEAD	cancer	1.00	14-Jul-2000	6.13	103.00	1.00	35.00	0.00	1.00	190.00	0.00
131.00	DEAD	cancer	1.00	13-Sep-2004	8.03	1.00	0.00	33.00	1.00	1.00	193.00	0.00
132.00	DEAD	cancer	1.00	18-Nov-2002	1.33	66.00	1.00	38.00	0.00	1.00	221.00	0.00
133.00	DEAD	cancer	1.00	26-May-2000	3.37	16.00	1.00	42.00	0.00	1.00	230.00	0.00
134.00	DEAD	cancer	1.00	16-Mar-2002	5.23	1.00	0.00	43.00	0.00	0.00	233.00	0.00
135.00	DEAD	cancer	1.00	22-Mar-2005	5.10	1.00	0.00	44.00	0.00	0.00	292.00	1.00
136.00	DEAD	cancer	1.00	12-Oct-2001	1.03	108.00	1.00	38.00	0.00	1.00	326.00	1.00
137.00	DEAD	cancer	1.00	14-May-2001	1.40	11.00	1.00	41.00	0.00	1.00	420.00	1.00
138.00	DEAD	cancer	1.00	30-Nov-2001	5.00	8.00	0.00	35.00	0.00	0.00	580.00	1.00
139.00	DEAD	cancer	1.00	30-Jun-2000	2.07	216.00	1.00	30.00	1.00	2.00	780.00	1.00
140.00	DEAD	cancer	1.00	20-Jan-2000	0.30	131.00	1.00	39.00	0.00	1.00	2,180.00	1.00
141.00	DEAD	cancer	1.00	24-Dec-2000	1.93	1.00	0.00	44.00	0.00	0.00	155.00	0.00
142.00	DEAD	cancer	1.00	25-Aug-2003	4.13	50.00	1.00	31.00	1.00	2.00	99.00	0.00
143.00	DEAD	bleed	2.00	21-Dec-2004	0.60	171.00	1.00	28.00	1.00	2.00	811.00	1.00
144.00	ALIVE		0.00	30-Jun-2005	6.87	1.00	0.00	38.00	0.00	0.00	113.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
145.00	DEAD	cancer	1.00	05-Jun-2003	8.00	89.00	1.00	38.00	0.00	1.00	138.00	0.00
146.00	DEAD	cancer	1.00	12-Jun-2002	6.23	1.00	0.00	46.00	0.00	0.00	149.00	0.00
147.00	DEAD	cancer	1.00	23-Oct-2003	9.10	1.00	0.00	48.00	0.00	0.00	150.00	0.00
148.00	DEAD	cancer	1.00	13-Apr-2003	21.40	1.00	0.00	46.00	0.00	0.00	155.00	0.00
149.00	DEAD	cancer	1.00	01-Apr-2002	1.13	44.00	1.00	37.00	0.00	1.00	159.00	0.00
150.00	DEAD	cancer	1.00	16-Jan-2004	14.33	18.00	1.00	43.00	0.00	1.00	164.00	0.00
151.00	ALIVE		0.00	30-Jun-2005	11.63	1.00	0.00	38.00	0.00	0.00	187.00	0.00
152.00	DEAD	cancer	1.00	12-Jan-2004	1.40	53.00	1.00	40.00	0.00	1.00	196.00	0.00
153.00	DEAD	cancer	1.00	29-Apr-2003	14.40	6.00	0.00	42.00	0.00	0.00	198.00	0.00
154.00	DEAD	cancer	1.00	19-Apr-2005	8.80	11.00	1.00	48.00	0.00	1.00	204.00	0.00
155.00	ALIVE		0.00	30-Jun-2005	16.40	8.00	0.00	38.00	0.00	0.00	212.00	0.00
156.00	DEAD	cancer	1.00	21-Nov-2002	7.43	36.00	1.00	42.00	0.00	1.00	237.00	0.00
157.00	DEAD	cancer	1.00	21-Sep-2003	3.13	26.00	1.00	43.00	0.00	1.00	243.00	0.00
158.00	ALIVE		0.00	30-Jun-2005	11.97	64.00	1.00	28.00	1.00	2.00	280.00	1.00
159.00	ALIVE		0.00	30-Jun-2005	9.53	1.00	0.00	44.00	0.00	0.00	290.00	1.00
160.00	DEAD	cancer	1.00	25-May-2002	2.80	57.00	1.00	39.00	0.00	1.00	292.00	1.00
161.00	DEAD	cancer	1.00	28-Aug-2003	7.80	190.00	1.00	38.00	0.00	1.00	303.00	1.00
162.00	DEAD	cancer	1.00	21-Aug-2004	0.73	68.00	1.00	34.00	1.00	2.00	324.00	1.00
163.00	DEAD	cancer	1.00	30-May-2002	3.00	96.00	1.00	43.00	0.00	1.00	500.00	1.00
164.00	DEAD	cancer	1.00	24-Aug-2004	5.13	28.00	1.00	37.00	0.00	1.00	153.00	0.00
165.00	DEAD	cancer	1.00	11-Feb-2005	8.07	88.00	1.00	35.00	0.00	1.00	154.00	0.00
166.00	ALIVE		0.00	30-Jun-2005	25.20	42.00	1.00	37.00	0.00	1.00	186.00	0.00
167.00	DEAD	cancer	1.00	07-Oct-2004	9.77	15.00	1.00	40.00	0.00	1.00	199.00	0.00
168.00	DEAD	cancer	1.00	04-Aug-2003	2.20	65.00	1.00	35.00	0.00	1.00	244.00	0.00
169.00	DEAD	cancer	1.00	23-Jun-2002	14.17	47.00	1.00	36.00	0.00	1.00	22.00	0.00
170.00	DEAD	cancer	1.00	02-Jul-2003	20.33	1.00	0.00	42.00	0.00	0.00	151.00	0.00
171.00	DEAD	cancer	1.00	11-Feb-2002	1.13	94.00	1.00	32.00	1.00	2.00	159.00	0.00
172.00	DEAD	cancer	1.00	12-Feb-2003	8.23	43.00	1.00	28.00	1.00	2.00	167.00	0.00
173.00	DEAD	cancer	1.00	08-Oct-2002	6.97	6.00	0.00	43.00	0.00	0.00	180.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
174.00	ALIVE		0.00	30-Jun-2005	9.63	10.00	0.00	30.00	1.00	1.00	195.00	0.00
175.00	DEAD	cancer	1.00	27-Dec-2001	2.30	73.00	1.00	35.00	0.00	1.00	217.00	0.00
176.00	DEAD	cancer	1.00	03-Feb-2005	9.13	1.00	0.00	32.00	1.00	1.00	220.00	0.00
177.00	DEAD	cancer	1.00	03-Dec-2002	12.07	11.00	1.00	46.00	0.00	1.00	233.00	0.00
178.00	DEAD	cancer	1.00	13-Jun-2002	10.93	8.00	0.00	44.00	0.00	0.00	285.00	1.00
179.00	ALIVE		0.00	30-Jun-2005	7.07	1.00	0.00	39.00	0.00	0.00	349.00	1.00
180.00	DEAD	cancer	1.00	13-May-2004	8.23	6.00	0.00	37.00	0.00	0.00	632.00	1.00
181.00	DEAD	cancer	1.00	19-Apr-2002	5.93	23.00	1.00	32.00	1.00	2.00	546.00	1.00
182.00	DEAD	cancer	1.00	08-Feb-2005	1.33	15.00	1.00	39.00	0.00	1.00		
183.00	DEAD	cancer	1.00	10-Oct-2004	2.87	11.00	1.00	43.00	0.00	1.00	144.00	0.00
184.00	ALIVE		0.00	30-Jun-2005	6.83	7.00	0.00	43.00	0.00	0.00	163.00	0.00
185.00	ALIVE		0.00	30-Jun-2005	12.43	1.00	0.00	43.00	0.00	0.00	279.00	0.00
186.00	DEAD	cancer	1.00	21-Sep-2002	8.27	1.00	0.00	42.00	0.00	0.00	138.00	0.00
187.00	DEAD	cancer	1.00	10-Aug-2002	2.70	45.00	1.00	44.00	0.00	1.00	143.00	0.00
188.00	DEAD	cancer	1.00	15-Aug-2001	7.23	41.00	1.00	30.00	1.00	2.00	145.00	0.00
189.00	DEAD	cancer	1.00	02-Sep-2000	2.83	14.00	1.00	35.00	0.00	1.00	205.00	0.00
190.00	DEAD	sepsis	1.00	23-May-2003	0.77	1.00	0.00	43.00	0.00	0.00	208.00	0.00
191.00	DEAD	cancer	1.00	16-Mar-2002	0.73	28.00	1.00	36.00	0.00	1.00	229.00	0.00
192.00	DEAD	PE	2.00	23-Oct-2002	31.57	1.00	0.00	38.00	0.00	0.00		
193.00	DEAD	cancer	1.00	23-Jun-2001	11.10	13.00	1.00	37.00	0.00	1.00	85.00	0.00
194.00	DEAD	cancer	1.00	16-Oct-2004	16.50	24.00	1.00	40.00	0.00	1.00	99.00	0.00
195.00	ALIVE		0.00	30-Jun-2005	20.17	1.00	0.00	42.00	0.00	0.00	103.00	0.00
196.00	DEAD	cancer	1.00	10-Jul-2004	0.50	20.00	1.00	24.00	1.00	2.00	120.00	0.00
197.00	DEAD	cancer	1.00	16-Sep-2002	9.80	1.00	0.00	38.00	0.00	0.00	127.00	0.00
198.00	DEAD	cancer	1.00	08-Oct-2004	15.50	10.00	0.00	34.00	1.00	1.00	128.00	0.00
199.00	DEAD	cancer	1.00	04-Nov-2004	2.43	19.00	1.00	34.00	1.00	2.00	130.00	0.00
200.00	DEAD	cancer	1.00	18-Sep-2001	6.67	7.00	0.00	34.00	1.00	1.00	135.00	0.00
201.00	DEAD	cancer	1.00	03-Jun-2003	4.17	15.00	1.00	35.00	0.00	1.00	136.00	0.00
202.00	DEAD	cancer	1.00	27-Feb-2001	11.43	1.00	0.00	35.00	0.00	0.00	145.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
203.00	DEAD	cancer	1.00	10-Jun-2004	5.20	8.00	0.00	42.00	0.00	0.00	162.00	0.00
204.00	DEAD	cancer	1.00	03-May-2004	2.20	96.00	1.00	30.00	1.00	2.00	173.00	0.00
205.00	DEAD	cancer	1.00	10-Jul-2001	0.63	6.00	0.00	44.00	0.00	0.00	180.00	0.00
206.00	DEAD	cancer	1.00	04-Aug-2000	1.90	96.00	1.00	38.00	0.00	1.00	180.00	0.00
207.00	ALIVE		0.00	30-Jun-2005	23.63	1.00	0.00	42.00	0.00	0.00	192.00	0.00
208.00	DEAD	cancer	1.00	31-Dec-2003	3.27	1.00	0.00	38.00	0.00	0.00	193.00	0.00
209.00	ALIVE		0.00	30-Jun-2005	22.00	9.00	0.00	46.00	0.00	0.00	193.00	0.00
210.00	DEAD	cancer	1.00	13-Jun-2000	1.60	24.00	1.00	33.00	1.00	2.00	195.00	0.00
211.00	DEAD	cancer	1.00	27-May-2002	0.87	39.00	1.00	37.00	0.00	1.00	199.00	0.00
212.00	DEAD	cancer	1.00	26-Mar-2002	4.67	82.00	1.00	34.00	1.00	2.00	200.00	0.00
213.00	DEAD	cancer	1.00	16-Aug-2003	9.97	43.00	1.00	39.00	0.00	1.00	207.00	0.00
214.00	DEAD	cancer	1.00	27-Jul-2000	1.37	1.00	0.00	37.00	0.00	0.00	215.00	0.00
215.00	DEAD	cancer	1.00	29-Nov-2002	23.10	8.00	0.00	37.00	0.00	0.00	225.00	0.00
216.00	ALIVE		0.00	30-Jun-2005	8.73	60.00	1.00	25.00	1.00	2.00	231.00	0.00
217.00	DEAD	cancer	1.00	04-Nov-2002	2.80	8.00	0.00	40.00	0.00	0.00	246.00	0.00
218.00	DEAD	cancer	1.00	27-Aug-2002	1.77	120.00	1.00	32.00	1.00	2.00	251.00	0.00
219.00	DEAD	cancer	1.00	09-May-2005	12.33	1.00	0.00	39.00	0.00	0.00	253.00	0.00
220.00	ALIVE		0.00	30-Jun-2005	15.17	1.00	0.00	39.00	0.00	0.00	256.00	0.00
221.00	DEAD		1.00	16-Feb-2003	18.63	6.00	0.00	36.00	0.00	0.00	260.00	0.00
222.00	ALIVE		0.00	30-Jun-2005	8.43	29.00	1.00	31.00	1.00	2.00	264.00	0.00
223.00	ALIVE		0.00	30-Jun-2005	8.37	58.00	1.00	27.00	1.00	2.00	265.00	0.00
224.00	DEAD	cancer	1.00	04-Dec-2001	0.93	52.00	1.00	39.00	0.00	1.00	309.00	1.00
225.00	ALIVE		0.00	30-Jun-2005	13.77	1.00	0.00	45.00	0.00	0.00	320.00	1.00
226.00	DEAD	cancer	1.00	25-Dec-2002	20.83	1.00	0.00	44.00	0.00	0.00	380.00	1.00
227.00	DEAD	pneumoni	2.00	07-Jul-2004	12.13	157.00	1.00	32.00	1.00	2.00	431.00	1.00
228.00	DEAD	cancer	1.00	18-Nov-2001	1.47	22.00	1.00	41.00	0.00	1.00	479.00	1.00
229.00	DEAD	cancer	1.00	13-Sep-2001	2.60	42.00	1.00	49.00	0.00	1.00	570.00	1.00
230.00	DEAD	cancer	1.00	20-May-2001	7.37	17.00	1.00	48.00	0.00	1.00	135.00	0.00
231.00	DEAD	cancer	1.00	04-Oct-2002	1.40	171.00	1.00	42.00	0.00	1.00	140.00	0.00

Patient	status	c of death	a0cd1nc2	dofu	survmths	crp	crpcd	alb	albcd	Gps	alp	alpcd
232.00	DEAD	cancer	1.00	09-Jul-2000	0.13	99.00	1.00	29.00	1.00	2.00	150.00	0.00
233.00	DEAD	cancer	1.00	21-Oct-2004	1.63	23.00	1.00	28.00	1.00	2.00	167.00	0.00
234.00	DEAD	cancer	1.00	01-Oct-2004	12.83	12.00	1.00	37.00	0.00	1.00	176.00	0.00
235.00	ALIVE		0.00	30-Jun-2005	7.30	1.00	0.00	42.00	0.00	0.00	197.00	0.00
236.00	DEAD	cancer	1.00	26-Dec-2004	0.63	79.00	1.00	40.00	0.00	1.00	205.00	0.00
237.00	DEAD	cancer	1.00	04-Sep-2003	1.03	38.00	1.00	28.00	1.00	2.00	209.00	0.00
238.00	DEAD	cancer	1.00	06-Dec-2000	7.40	18.00	1.00	38.00	0.00	1.00	210.00	0.00
239.00	DEAD	cancer	1.00	11-Feb-2002	6.63	11.00	1.00	34.00	1.00	2.00	215.00	0.00
240.00	ALIVE		0.00	30-Jun-2005	34.50	8.00	0.00	44.00	0.00	0.00	222.00	0.00
241.00	DEAD	cancer	1.00	30-May-2001	0.87	89.00	1.00	40.00	0.00	1.00	230.00	0.00
242.00	DEAD	cancer	1.00	14-Jan-2001	1.80	8.00	0.00	38.00	0.00	0.00	260.00	0.00
243.00	DEAD	cancer	1.00	13-Jan-2004	2.97	8.00	0.00	40.00	0.00	0.00	270.00	0.00
244.00	DEAD	cancer	1.00	05-Oct-2004	1.40	38.00	1.00	37.00	0.00	1.00	293.00	1.00
245.00	DEAD	cancer	1.00	17-Apr-2003	1.37	31.00	1.00	28.00	1.00	2.00	309.00	1.00
246.00	DEAD	cancer	1.00	24-Jul-2002	1.47	74.00	1.00	33.00	1.00	2.00	401.00	1.00
247.00	DEAD	cancer	1.00	01-Feb-2004	2.50	171.00	1.00	36.00	0.00	1.00	414.00	1.00
248.00	DEAD	cancer	1.00	04-Nov-2003	0.70	109.00	1.00	35.00	0.00	1.00	490.00	1.00
249.00	DEAD	cancer	1.00	27-May-2004	5.83	253.00	1.00	29.00	1.00	2.00	530.00	1.00
250.00	DEAD	cancer	1.00	01-Sep-2000	0.80	117.00	1.00	33.00	1.00	2.00	640.00	1.00
251.00	DEAD	cancer	1.00	26-Sep-2001	2.07	16.00	1.00	33.00	1.00	2.00	930.00	1.00
252.00	DEAD	cancer	1.00	29-Jul-2000	3.40	30.00	1.00	40.00	0.00	1.00	1,110.00	1.00
253.00	DEAD	cancer	1.00	03-Jun-2004	2.30	89.00	1.00	36.00	0.00	1.00	1,346.00	1.00
254.00	DEAD	cancer	1.00	23-May-2003	0.47	29.00	1.00	28.00	1.00	2.00	1,635.00	1.00
255.00	DEAD	cancer	1.00	24-Apr-2004	1.27	30.00	1.00	22.00	1.00	2.00	2,396.00	1.00
256.00	ALIVE		0.00	30-Jun-2005	6.83	1.00	0.00	31.00	1.00	1.00	132.00	0.00
257.00	DEAD	cancer	1.00	01-May-2004	4.33	64.00	1.00	38.00	0.00	1.00	185.00	0.00
258.00	DEAD	cancer	1.00	18-Jan-2002	3.37	8.00	0.00	44.00	0.00	0.00	201.00	0.00

APPENDIX 4: DATABASE FOR CHAPTER 5:

COMPARISON OF AN INFLAMMATION BASED PROGNOSTIC SCORE (GPS) WITH PERFORMANCE STATUS (ECOG-PS), IN PATIENTS RECEIVING PALLIATIVE CHEMOTHERAPY FOR GASTRO-OESOPHAGEAL CANCER.

Patient	m0f1	age	agecd	site	o0g1	histology	typecd	date of endo	stage	stagecd	status	dofu
1	0.00	65.47	1.00	oesoph	0.00	squam	1.00	22-May-2003	3.00	1.00	ALIVE	31-Jan-2007
2	0.00	66.10	1.00	o/g	0.00	adeno	0.00	27-Jul-2004	4.00	1.00	ALIVE	31-Jan-2007
3	1.00	73.71	1.00	G	1.00	A	0.00	13-Jun-2005	4.00	1.00	ALIVE	31-Jan-2007
4	0.00	74.72	1.00	O	0.00	A	0.00	25-May-2005	4.00	1.00	ALIVE	31-Jan-2007
5	0.00	69.81	1.00	gastric	1.00	adeno	0.00	30-Nov-2004	3.00	1.00	DEAD	19-Jun-2005
6	0.00	65.38	1.00	gastric	1.00	adeno	0.00	21-Feb-2002	3.00	1.00	DEAD	29-Apr-2003
7	1.00	64.50	0.00	g	1.00	a	0.00	06-Oct-1999	3.00	1.00	DEAD	03-Dec-2001
8	0.00	75.35	2.00	oesoph	0.00	adeno	0.00	19-Feb-2004	3.00	1.00	DEAD	03-Sep-2004
9	0.00	72.68	1.00	oesoph	0.00	adeno	0.00	14-Jan-2004	3.00	1.00	DEAD	08-Dec-2004
10	0.00	56.85	0.00	0	0.00	s	1.00	21-Sep-1999	3.00	1.00	DEAD	17-Sep-2000
11	1.00	55.49	0.00	o/g	0.00	adeno	0.00	21-Dec-2004	4.00	1.00	DEAD	03-Sep-2005
12	0.00	42.48	0.00	gast	1.00	adeno	0.00	17-Sep-2004	4.00	1.00	DEAD	10-Sep-2005
13	1.00	54.36	0.00	gastric	1.00	adeno	0.00	06-Dec-2004	4.00	1.00	DEAD	06-Nov-2005
14	0.00	44.14	0.00	OES	0.00	A	0.00	26-Jul-2005	4.00	1.00	DEAD	02-Jun-2006
15	1.00	42.09	0.00	gastric	1.00	adeno	0.00	23-Jan-2003	4.00	1.00	DEAD	23-Oct-2003
16	0.00	56.46	0.00	G	1.00	A	0.00	08-Apr-2005	4.00	1.00	DEAD	20-Sep-2005
17	0.00	62.56	0.00	o/g	0.00	adeno	0.00	05-Mar-2004	4.00	1.00	DEAD	11-Aug-2005
18	0.00	70.35	1.00	oesoph	0.00	squam	1.00	04-Dec-2001	4.00	1.00	DEAD	03-May-2002
19	0.00	73.47	1.00	gastric	1.00	adeno	0.00	16-Jul-2004	4.00	1.00	DEAD	30-Sep-2005
20	0.00	76.35	2.00	oesoph	0.00	adeno	0.00	28-Jun-2002	4.00	1.00	DEAD	08-Mar-2003
21	1.00	46.43	0.00	o/g	1.00	adeno	0.00	20-Jul-2001	4.00	1.00	DEAD	13-Jun-2002
22	0.00	67.62	1.00	gastric	1.00	adeno	0.00	10-Jul-2001	4.00	1.00	DEAD	13-Apr-2003
23	0.00	42.72	0.00	oesoph	0.00	adeno	0.00	16-Apr-2002	4.00	1.00	DEAD	30-May-2003
24	0.00	54.38	0.00	oesoph	0.00	adeno	0.00	23-Mar-2004	4.00	1.00	DEAD	01-Feb-2005
25	0.00	66.08	1.00	oesoph	0.00	adeno	0.00	30-Jul-2003	4.00	1.00	DEAD	27-Feb-2005
26	0.00	63.83	0.00	oesoph	0.00	squam	1.00	08-Oct-2002	3.00	1.00	DEAD	29-Mar-2003
27	0.00	52.80	0.00	G	1.00	A	0.00	08-Apr-2005	4.00	1.00	ALIVE	31-Jan-2007

Patient	m0f1	age	agecd	site	o0g1	histology	typecd	date of endo	stage	stagecd	Status	dofu
28	0.00	74.95	1.00	gas	1.00	adeno	0.00	14-Sep-2004	3.00	1.00	DEAD	04-Nov-2005
29	0.00	68.34	1.00	g	1.00	a	0.00	01-Jul-1999	3.00	1.00	DEAD	23-Jun-2000
30	0.00	55.01	0.00	gastric	1.00	adeno	0.00	13-Mar-2002	3.00	1.00	DEAD	08-Oct-2002
31	0.00	54.67	0.00	oesoph	0.00	squam	1.00	20-Jan-2004	3.00	1.00	DEAD	23-Aug-2004
32	0.00	70.14	1.00	o/g	0.00	adeno	0.00	02-May-2001	3.00	1.00	DEAD	08-Mar-2003
33	0.00	60.86	0.00	oesoph	0.00	adeno	0.00	04-Jun-2003	3.00	1.00	DEAD	25-May-2004
34	0.00	71.96	1.00	oesoph	0.00	adeno	0.00	12-Nov-2003	3.00	1.00	DEAD	18-Apr-2005
35	0.00	75.18	2.00	OE	0.00	A	1.00	18-Mar-2005	3.00	1.00	DEAD	15-Jan-2006
36	0.00	46.92	0.00	gastric	1.00	adeno	0.00	02-Mar-2002	4.00	1.00	DEAD	25-May-2002
37	0.00	52.05	0.00	o/g	1.00	adeno	0.00	05-Jun-2003	4.00	1.00	DEAD	01-Sep-2004
38	0.00	43.64	0.00	gas	1.00	adeno	0.00	29-Jul-2004	4.00	1.00	DEAD	19-Apr-2005
39	1.00	65.08	1.00	G	1.00	A	0.00	16-Aug-2005	4.00	1.00	ALIVE	21-Aug-2006
40	0.00	49.76	0.00	gastric	1.00	adeno	0.00	10-Oct-2000	4.00	1.00	DEAD	17-Jan-2001
41	0.00	56.00	0.00	gastric	1.00	adeno	0.00	19-Oct-2001	4.00	1.00	DEAD	27-Dec-2001
42	0.00	68.98	1.00	oesoph	0.00	adeno	0.00	21-Nov-2001	4.00	1.00	DEAD	02-Apr-2002
43	0.00	44.99	0.00	gastric	1.00	adeno	0.00	01-Mar-2002	4.00	1.00	DEAD	30-May-2002
44	1.00	61.79	0.00	gastric	1.00	adeno	0.00	08-Oct-2002	4.00	1.00	DEAD	05-Jun-2003
45	1.00	70.27	1.00	oesoph	0.00	adeno	0.00	06-Dec-2001	4.00	1.00	DEAD	29-Jun-2003
46	0.00	76.19	2.00	gastric	1.00	adeno	0.00	30-May-2003	4.00	1.00	DEAD	04-Aug-2003
47	1.00	41.38	0.00	gastric	1.00	adeno	0.00	14-Jun-2004	4.00	1.00	DEAD	11-Feb-2005
48	0.00	62.28	0.00	o/g	0.00	adeno	0.00	16-Aug-2004	4.00	1.00	DEAD	03-Nov-2004
49	0.00	62.33	0.00	oesoph	0.00	adeno	0.00	21-Jan-2004	4.00	1.00	DEAD	30-Apr-2005
50	0.00	55.27	0.00	oesoph	0.00	adeno	0.00	12-Jun-2001	4.00	1.00	DEAD	11-Dec-2001
51	0.00	43.31	0.00	gast	1.00	adeno	0.00	06-Jan-2003	4.00	1.00	DEAD	28-Aug-2003
52	1.00	63.20	0.00	oesoph	0.00	squam	1.00	18-Oct-2004	4.00	1.00	DEAD	03-Dec-2005
53	0.00	69.23	1.00	oesoph	0.00	squam	1.00	14-Jan-2004	4.00	1.00	DEAD	24-Jan-2005
54	0.00	65.74	1.00	oesoph	0.00	squam	1.00	30-Jan-2001	4.00	1.00	DEAD	13-Dec-2001
55	0.00	76.64	2.00	o/g	0.00	adeno	0.00	01-Oct-2001	4.00	1.00	DEAD	03-Jan-2003
56	0.00	65.65	1.00	o	0.00	s	1.00	05-Jan-1999	4.00	1.00	DEAD	01-Mar-2000

Patient	m0f1	age	agecd	site	o0g1	histology	typecd	date of endo	stage	stagecd	Status	dofu
57	0.00	63.35	0.00	oesoph	0.00	squam	1.00	28-Jul-2000	4.00	1.00	DEAD	06-Nov-2000
58	0.00	70.31	1.00	OES	0.00	S	1.00	30-Nov-2005	4.00	1.00	ALIVE	31-Jan-2007
59	0.00	60.29	0.00	0	0.00	a	0.00	14-Sep-1999	3.00	1.00	DEAD	25-May-2000
60	1.00	68.45	1.00	oesoph	0.00	squam	1.00	20-Nov-2003	3.00	1.00	DEAD	01-Sep-2004
61	1.00	70.85	1.00	oesoph	0.00	adeno	0.00	01-Sep-2004	4.00	1.00	DEAD	26-Feb-2005
62	1.00	74.82	1.00	OES	0.00	A	0.00	01-Sep-2005	4.00	1.00	DEAD	15-Jun-2006
63	0.00	60.26	0.00	gastric	1.00	adeno	0.00	10-Jun-2002	4.00	1.00	DEAD	12-Feb-2003
64	1.00	73.42	1.00	gastric	1.00	adeno	0.00	23-Oct-2001	4.00	1.00	DEAD	19-Apr-2002
65	0.00	48.11	0.00	oesoph	0.00	adeno	0.00	27-Feb-2003	4.00	1.00	DEAD	27-Dec-2003

Patient	cofdeath	a0cd1nc2	crp	crpcd	alb	albcd	hb	hbcd	wcc	wcccd	lymph	lymphper	Lymphcd
1		0.00	1.00	0.00	48.00	0.00	14.90	0.00	7.40	0.00	0.80	10.81	2.00
2		0.00	1.00	0.00	40.00	0.00	14.10	0.00	9.40	1.00	2.50	26.60	0.00
3		0.00	6.00	0.00	42.00	0.00	12.20	0.00	7.90	0.00	2.70	34.18	0.00
4		0.00	6.00	0.00	43.00	0.00	15.40	0.00	8.10	0.00	2.20	27.16	0.00
5	cancer	1.00	1.00	0.00	39.00	0.00	14.30	0.00	7.70	0.00	1.30	16.88	1.00
6	cancer	1.00	6.00	0.00	42.00	0.00	14.40	0.00	9.10	1.00	2.60	28.57	0.00
7	cancer	1.00	6.00	0.00	39.00	0.00	11.70	1.00	7.40	0.00	1.60	21.62	0.00
8	cancer	1.00	1.00	0.00	36.00	0.00	13.60	0.00	6.90	0.00	2.60	37.68	0.00
9	cancer	1.00	1.00	0.00	47.00	0.00	10.60	1.00	6.30	0.00	0.90	14.29	1.00
10	cancer	1.00	6.00	0.00	40.00	0.00							
11	cancer	1.00	8.00	0.00	50.00	0.00	15.40	0.00	8.30	0.00	2.60	31.33	0.00
12	cancer	1.00	1.00	0.00	44.00	0.00	14.60	0.00	9.90	1.00	2.00	20.20	0.00
13	cancer	1.00	1.00	0.00	38.00	0.00	14.90	0.00	6.50	0.00	1.50	23.08	0.00
14	cancer	1.00	6.00	0.00	44.00	0.00	11.90	1.00	2.90	0.00	1.10	37.93	0.00
15	cancer	1.00	1.00	0.00	48.00	0.00	10.20	1.00	6.40	0.00	0.50	7.81	2.00
16	cancer	1.00	6.00	0.00	45.00	0.00	17.30	0.00	17.70	2.00	3.90	22.03	0.00
17	cancer	1.00	10.00	0.00	45.00	0.00	14.00	0.00	9.10	1.00	1.80	19.78	1.00
18	cancer	1.00	10.00	0.00	42.00	0.00	15.10	0.00	8.20	0.00	2.60	31.71	0.00
19	cancer	1.00	1.00	0.00	38.00	0.00	12.30	0.00	9.40	1.00	1.70	18.09	1.00
20	cancer	1.00	1.00	0.00	42.00	0.00	13.20	0.00	6.10	0.00	1.00	16.39	1.00
21	cancer	1.00	8.00	0.00	44.00	0.00	13.60	0.00	7.30	0.00	2.40	32.88	0.00
22	cancer	1.00	1.00	0.00	46.00	0.00	16.00	0.00	10.40	1.00	3.20	30.77	0.00
23	cancer	1.00	1.00	0.00	40.00	0.00	15.00	0.00	5.60	0.00	1.90	33.93	0.00
24	cancer	1.00	1.00	0.00	43.00	0.00	15.30	0.00	7.60	0.00	0.90	11.84	2.00
25	cancer	1.00	9.00	0.00	46.00	0.00	14.00	0.00	12.70	2.00	1.60	12.60	1.00
26	renal	2.00	1.00	0.00	36.00	0.00	14.20	0.00	7.10	0.00	1.80	25.35	0.00
27		0.00	27.00	1.00	41.00	0.00	15.70	0.00	7.60	0.00	2.70	35.53	0.00

Patient	cofdeath	a0cd1nc2	crp	crpcd	alb	albcd	hb	hbcd	wcc	wcccd	lymph	lymphper	Lymphcd
28	cancer	1.00	10.00	0.00	30.00	1.00	13.20	0.00	8.50	1.00	2.80	32.94	0.00
29	cancer	1.00	39.00	1.00	43.00	0.00	12.10	0.00	4.70	0.00	0.70	14.89	1.00
30	cancer	1.00	14.00	1.00	43.00	0.00	15.90	0.00	8.50	1.00	2.40	28.24	0.00
31	cancer	1.00	27.00	1.00	40.00	0.00	13.50	0.00	9.20	1.00	1.90	20.65	0.00
32	cancer	1.00	18.00	1.00	45.00	0.00	10.70	1.00	12.70	2.00	1.50	11.81	2.00
33	cancer	1.00	42.00	1.00	38.00	0.00	14.60	0.00	7.40	0.00	1.60	21.62	0.00
34	cancer	1.00	15.00	1.00	39.00	0.00	14.70	0.00	9.40	1.00	2.80	29.79	0.00
35	cancer	1.00	22.00	1.00	35.00	0.00	13.50	0.00	7.80	0.00	1.20	15.38	1.00
36	cancer	1.00	57.00	1.00	39.00	0.00	12.20	0.00	10.50	1.00	1.40	13.33	1.00
37	cancer	1.00	42.00	1.00	37.00	0.00	13.60	0.00	6.70	0.00	1.10	16.42	1.00
38	cancer	1.00	11.00	1.00	48.00	0.00	13.40	0.00	11.80	2.00	2.30	19.49	1.00
39	cancer	1.00	12.00	1.00	39.00	0.00	15.60	0.00	7.30	0.00	1.30	17.81	1.00
40	cancer	1.00	37.00	1.00	0.00	0.00	14.50	0.00	8.90	1.00	1.30	14.61	1.00
41	cancer	1.00	73.00	1.00	35.00	0.00	12.90	0.00	17.20	2.00	2.50	14.53	1.00
42	cancer	1.00	70.00	1.00	36.00	0.00	10.70	1.00	12.10	2.00	0.60	4.96	2.00
43	cancer	1.00	96.00	1.00	43.00	0.00	14.10	0.00	9.80	1.00	1.60	16.33	1.00
44	cancer	1.00	89.00	1.00	38.00	0.00	11.40	1.00	3.90	0.00	0.60	15.38	1.00
45	cancer	1.00	36.00	1.00	40.00	0.00	12.00	0.00	6.40	0.00	1.20	18.75	1.00
46	cancer	1.00	65.00	1.00	35.00	0.00	8.80	1.00	5.60	0.00	0.70	12.50	1.00
47	cancer	1.00	88.00	1.00	35.00	0.00	10.50	1.00	14.50	2.00	1.10	7.59	2.00
48	cancer	1.00	36.00	1.00	35.00	0.00	15.40	0.00	7.90	0.00	1.80	22.78	0.00
49	cancer	1.00	28.00	1.00	47.00	0.00	16.10	0.00	15.00	2.00	2.00	13.33	1.00
50	cancer	1.00	69.00	1.00	41.00	0.00	13.30	0.00	7.60	0.00	2.00	26.32	0.00
51	cancer	1.00	190.00	1.00	38.00	0.00	9.30	1.00	10.70	1.00	1.70	15.89	1.00
52	cancer	1.00	56.00	1.00	36.00	0.00	13.60	0.00	14.00	2.00	1.80	12.86	1.00
53	cancer	1.00	20.00	1.00	41.00	0.00	15.00	0.00	8.00	0.00	1.10	13.75	1.00
54	cancer	1.00	30.00	1.00	38.00	0.00	16.20	0.00	10.60	1.00	1.70	16.04	1.00
55	cancer	1.00	71.00	1.00	35.00	0.00	12.20	0.00	9.10	1.00	1.80	19.78	1.00
56	cancer	1.00	38.00	1.00			12.00	0.00	4.50	0.00	1.30	28.89	0.00

Patient	cofdeath	a0cd1nc2	crp	crpcd	alb	albcd	hb	hbcd	wcc	wcccd	lymph	lymphper	lymphcd
57	cancer	1.00	23.00	1.00	40.00	0.00	14.80	0.00	14.70	2.00	1.80	12.24	1.00
58		0.00	20.00	1.00	32.00	1.00	14.00	0.00	6.00	0.00	1.50	25.00	0.00
59	cancer	1.00	295.00	1.00	34.00	1.00	9.60	1.00	14.50	2.00	1.30	8.97	2.00
60	cancer	1.00	38.00	1.00	34.00	1.00	12.00	0.00	7.90	0.00	1.40	17.72	1.00
61	cancer	1.00	32.00	1.00	32.00	1.00	11.20	1.00	11.40	2.00	1.00	8.77	2.00
62	cancer	1.00	18.00	1.00	28.00	1.00	13.00	0.00	5.90	0.00	1.60	27.12	0.00
63	cancer	1.00	43.00	1.00	28.00	1.00	11.60	1.00	12.40	2.00	0.80	6.45	2.00
64	cancer	1.00	23.00	1.00	32.00	1.00	6.10	1.00	8.70	1.00	1.70	19.54	1.00
65	cancer	1.00	19.00	1.00	34.00	1.00	15.30	0.00	13.30	2.00	1.30	9.77	2.00

patient	gps	survmths	ps	radia	chemtype	chemtyp	numcycle	chemred	toxicity	Clinires	clinrecd	ctrespon	Ctrescd
1	0.00	45.00	0.00	30.00	cisp 5fu	1.00	3.00	0.00	2.00	Good	0.00	partial	0.00
2	0.00	30.60	2.00	0.00	ecf	0.00	1.00	1.00		Poor	1.00		
3	0.00	19.90	1.00	0.00	ecf	0.00	6.00	0.00	3.00	Good	0.00	partial	0.00
4	0.00	20.53	0.00	0.00	ecf	0.00	6.00	0.00	2.00	Good	0.00	partial	0.00
5	0.00	6.70	1.00	0.00	epiru/oxali/capci	3.00	4.00	1.00	2.00	Good	0.00	partial	0.00
6	0.00	14.40	1.00	0.00	ecf	0.00	6.00	0.00	1.00	Good	0.00	partial	0.00
7	0.00	26.30	1.00	0.00	mcf	2.00	6.00	1.00	2.00	Good	0.00	partial	0.00
8	0.00	6.57	0.00	0.00	5fu/ cispla	1.00	1.00	1.00	2.00	Poor	1.00	progress	2.00
9	0.00	10.97	1.00	20.00	ecf	0.00	6.00	0.00	1.00	Static	1.00	static	1.00
10	0.00	12.07		36.00	ecf	0.00	4.00	0.00	2.00	Good	0.00	partial	0.00
11	0.00	8.53	1.00	0.00	epiru/oxal/5fu	3.00	6.00	1.00	3.00	Poor	1.00	partial	0.00
12	0.00	11.93	0.00	0.00	ecf	0.00	7.00	0.00	2.00	Stati	1.00	static	1.00
13	0.00	11.17	0.00	0.00	ecf	0.00	6.00	0.00	1.00	Partial	0.00	progress	2.00
14	0.00	10.37	1.00	0.00	ecf	0.00	6.00	0.00	3.00	Poor	1.00	static	1.00
15	0.00	9.10	0.00	0.00	ecf	0.00	6.00	0.00	2.00	Good	0.00	partial	0.00
16	0.00	5.50	0.00	0.00	ecf	0.00	2.00	1.00	!	Poor	1.00	progress	2.00
17	0.00	17.47	0.00	0.00	epirub, oxalaplatin	3.00	6.00	0.00	1.00	Good	0.00	partial	0.00
18	0.00	5.00	1.00	0.00	cisp 5fu	1.00	4.00	0.00	3.00	Poor	1.00	static	1.00
19	0.00	14.70	0.00	0.00	cisp 5fu	1.00	6.00	0.00	3.00	Good	0.00	partial	0.00
20	0.00	8.43	1.00	20.00	ecf	0.00	6.00	0.00	1.00	Poor	1.00	static	1.00
21	0.00	10.93	0.00	30.00	ecf	0.00	6.00	0.00	2.00	Good	0.00	partial	0.00
22	0.00	21.40	1.00	30.00	ecf	0.00	6.00	0.00	0.00	Good	0.00	static	1.00
23	0.00	13.63	0.00	30.00	ecf	0.00	6.00	0.00	3.00	Good	0.00	static	1.00
24	0.00	10.50	0.00	30.00	ecf	0.00	6.00	0.00	1.00	Good	0.00	static	1.00
25	0.00	19.27	0.00	30.00	ecf	0.00	6.00	0.00	2.00	Good	0.00	partial	0.00
26	0.00	5.73	1.00	0.00	cis 5fu	1.00	3.00	1.00	4.00	Good	0.00	partial	0.00
27	1.00	22.10	0.00	0.00	ecf	0.00	6.00	0.00	2.00	Static	1.00	static	1.00

patient	gps	survmths	ps	radia	chemtype	chemtyp	numcycle	chemred	toxicity	Clinires	clinrecd	ctrespon	Ctrescd
28	1.00	13.87	1.00	0.00	e 5fu carboplat	3.00	6.00	0.00	3.00	Partia	0.00	partial	0.00
29	1.00	11.93	1.00	0.00	epir cisp capcit	3.00	6.00	0.00	2.00	Poor	1.00	partia	0.00
30	1.00	6.97	1.00	0.00	mcf	2.00	3.00	1.00	2.00	Poor	1.00	static	1.00
31	1.00	7.20	0.00	20.00	cisp 5fu	1.00	4.00	0.00	2.00	Poor	1.00	progress	2.00
32	1.00	22.50	1.00	30.00	ecf	0.00	6.00	0.00	1.00	Good	0.00	partial	0.00
33	1.00	11.87	0.00	30.00	ecf	0.00	6.00	0.00	1.00	Good	0.00	static	1.00
34	1.00	17.43	1.00	30.00	cisp 5fu	1.00	4.00	0.00	3.00	Good	0.00	static	1.00
35	1.00	10.10	1.00	30.00	cisp 5fu	1.00	3.00	0.00	1.00	Good	0.00	static	1.00
36	1.00	2.80	0.00	0.00	ecf	0.00	2.00	1.00	3.00	Poor	1.00	progress	2.00
37	1.00	15.13	0.00	0.00	ecf	0.00	6.00	1.00	3.00	Good	0.00	partial	0.00
38	1.00	8.80	0.00	0.00	ecf	0.00	6.00	0.00	2.00	Parti	0.00	partial	0.00
39	1.00	12.33	0.00	0.00	ecf	0.00	6.00	0.00	4.00	Poor	1.00	static	1.00
40	1.00	3.30	2.00	0.00	ecf	0.00	1.00	1.00	2.00	Poor	1.00		
41	1.00	2.30	1.00	0.00	ecf	0.00	1.00	1.00	3.00	Poor	1.00		
42	1.00	4.40	1.00	0.00	ecf	0.00	1.00	1.00	3.00	Poor	1.00		
43	1.00	3.00	2.00	0.00	ecf	0.00	2.00	1.00	3.00	Poor	1.00		
44	1.00	8.00	0.00	0.00	ecf	0.00	6.00	0.00	3.00	Good	0.00	partial	0.00
45	1.00	19.00	2.00	0.00	ecf	0.00	6.00	1.00	3.00	Good	0.00	partial	0.00
46	1.00	2.20	0.00	0.00	ecf	0.00	1.00	1.00	3.00	Poor	1.00		
47	1.00	8.07	1.00	0.00	ecf	0.00	6.00	0.00	2.00	Partial	0.00	partial	0.00
48	1.00	2.63	0.00	0.00	ecf	0.00	2.00	1.00	2.00	Poor	1.00	static	1.00
49	1.00	15.50	0.00	20.00	ecf	0.00	3.00	1.00	4.00	Poor	1.00	progress	2.00
50	1.00	6.07	1.00	30.00	ecf	0.00	4.00	0.00	2.00	Static	1.00	static	1.00
51	1.00	7.80	0.00	30.00	ecf	0.00	6.00	0.00	3.00	Good	0.00	static	1.00
52	1.00	13.70	1.00	30.00	cis 5fu	1.00	3.00	1.00	2.00	Poor	1.00	static	1.00
53	1.00	12.53	0.00	30.00	cisp 5fu	1.00	3.00	0.00	3.00	Poor	1.00		
54	1.00	10.57	1.00	30.00	cispl, 5fu	1.00	4.00	0.00	1.00	Poor	1.00		
55	1.00	15.30	2.00	30.00	cispl,5fu	1.00	4.00	0.00	0.00	Poor	1.00	partial	0.00
56	1.00	14.03	1.00	35.00	cisp 5fu mitomy	2.00	6.00	0.00	0.00	Good	0.00	partial	0.00

patient	gps	survmths	ps	radia	chemtype	chemtyp	numcycle	chemred	toxicity	Clinires	clinrecd	ctrespon	ctrescd
57	1.00	3.37	1.00	45.00	cisp 5fu	1.00	3.00	1.00	1.00	Poor	1.00		
58	2.00	14.23	1.00	30.00	cisp 5fu	1.00	2.00	0.00	0.00	Poor	1.00		
59	2.00	8.47	0.00	20.00	mcf	2.00	6.00	0.00	1.00	Good	0.00	partial	0.00
60	2.00	9.53	0.00	30.00	cisp 5fu	1.00	3.00	0.00	1.00	Poor	1.00		
61	2.00	5.93	1.00	0.00	5fu pic	3.00	2.00	1.00	4.00	Poor	1.00		
62	2.00	9.57	0.00	0.00	ecf	0.00	3.00	0.00	2.00	Poor	1.00	partia	0.00
63	2.00	8.23	1.00	0.00	ecf	0.00	5.00	1.00	3.00	Good	0.00	partial	0.00
64	2.00	5.93	1.00	0.00	mcf	2.00	2.00	1.00	2.00	Poor	1.00		
65	2.00	10.10	1.00	30.00	ecf	0.00	6.00	0.00	3.00	Poor	1.00	static	1.00

APPENDIX 5: DATABASE FOR CHAPTER 6:

IS HYPOALBUMINAEMIA AND INDEPENDENT PROGNOSTIC FACTOR IN PATIENTS WITH GASTRIC CANCER?

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
1	0.00	70	1.00	16-Jun-2005	1.00	4.00	1.00	12-Aug-2005	1.90	surgery
2	0.00	83	2.00	27-Feb-2004	1.00	4.00	1.00	03-May-2004	2.20	Laser
3	1.00	81	2.00	06-Dec-2005	1.00	4.00	0.00	30-Apr-2007	17.00	DXT
4	0.00	81	2.00	26-Jul-2001	1.00	4.00	1.00	26-Sep-2001	2.07	None
5	1.00	60	0.00	08-Aug-2000	1.00	4.00	1.00	01-Sep-2000	0.80	None
6	0.00	70	1.00	27-Jul-2001	1.00	4.00	1.00	11-Feb-2002	6.63	None
7	1.00	87	2.00	21-Mar-2000	1.00	1.00	1.00	27-Feb-2001	11.43	Laser
8	0.00	75	2.00	01-Feb-2005	1.00	2.00	1.00	13-Jun-2006	16.57	LASER
9	1.00	77	2.00	23-Mar-2004	1.00	4.00	1.00	24-Aug-2004	5.13	Chemo &
10	0.00	52	0.00	05-Jun-2003	1.00	4.00	1.00	01-Sep-2004	15.13	Chemo &
11	0.00	79	2.00	01-Apr-2004	1.00	4.00	1.00	01-May-2005	13.17	Laser
12	0.00	83	2.00	21-Oct-2002	1.00	4.00	1.00	16-Aug-2003	9.97	Laser
13	1.00	78	2.00	06-Nov-2001	1.00	4.00	1.00	04-Dec-2001	0.93	Laser
14	0.00	53	0.00	03-Jun-2005	1.00	2.00	1.00	22-Sep-2006	15.87	LASER
15	0.00	79	2.00	30-Oct-2001	1.00	4.00	1.00	02-Jul-2003	20.33	Chemo/DX
16	0.00	42	0.00	17-Sep-2004	1.00	4.00	1.00	10-Sep-2005	11.93	Chemo
17	0.00	44	0.00	26-Jul-2005	1.00	4.00	1.00	02-Jun-2006	10.37	CHEMO
18	0.00	77	2.00	09-Sep-2003	1.00	1.00	1.00	30-Nov-2005	27.10	Laser
19	0.00	44	0.00	29-Jul-2004	1.00	4.00	1.00	19-Apr-2005	8.80	Chemo
20	0.00	61	0.00	18-Nov-2005	1.00	4.00	1.00	11-Dec-2005	0.77	ONCOL
21	0.00	76	2.00	26-Aug-2005	1.00	4.00	1.00	07-Jul-2006	10.50	NO TRT
22	1.00	41	0.00	14-Jun-2004	1.00	4.00	1.00	11-Feb-2005	8.07	Chemo &
23	0.00	74	1.00	14-Oct-2003	1.00	4.00	1.00	04-Nov-2003	0.70	None
24	0.00	53	0.00	12-Apr-2005	1.00	4.00	0.00	30-Apr-2007	24.93	CHEMO
25	0.00	81	2.00	22-Jul-2003	1.00	1.00	0.00	30-Apr-2007	45.93	Laser
26	1.00	67	1.00	30-Aug-2002	1.00	1.00	0.00	30-Apr-2007	56.80	None
27	0.00	68	1.00	10-Jul-2001	1.00	4.00	1.00	13-Apr-2003	21.40	Chemo
28	0.00	84	2.00	22-Oct-2004	2.00	1.00	1.00	15-Oct-2005	11.93	Laser
29	1.00	64	0.00	06-Jul-2004	2.00	4.00	1.00	10-Sep-2004	2.20	Chemo

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
30	0.00	60	0.00	20-Oct-2004	2.00	1.00	0.00	30-Apr-2007	30.73	Laser
31	0.00	72	1.00	09-Jul-2003	2.00	4.00	2.00	07-Jul-2004	12.13	Laser
32	1.00	79	2.00	26-Apr-2000	2.00	4.00	1.00	13-Jun-2000	1.60	Laser
33	1.00	79	2.00	15-Jul-2005	2.00	2.00	0.00	30-Apr-2007	21.80	LASER
34	0.00	76	2.00	01-Jul-2003	2.00	1.00	1.00	08-Oct-2004	15.50	Laser
35	1.00	77	2.00	25-Apr-2005	2.00	3.00	1.00	24-Sep-2005	5.07	LASER
36	0.00	72	1.00	30-Jul-2004	2.00	4.00	1.00	21-Aug-2004	0.73	Chemo
37	0.00	82	2.00	29-Jan-2003	2.00	1.00	1.00	03-Jun-2003	4.17	Laser
38	0.00	91	2.00	06-Jul-2005	2.00	4.00	1.00	30-Jul-2005	0.80	NO TRT
39	1.00	47	0.00	09-Sep-2003	2.00	4.00	1.00	13-May-2004	8.23	Chemo/DX
40	0.00	77	2.00	16-Jun-2000	2.00	4.00	1.00	27-Jul-2000	1.37	Laser
41	0.00	89	2.00	05-Jan-2001	2.00	1.00	1.00	29-Nov-2002	23.10	Laser
42	1.00	72	1.00	25-Jul-2000	2.00	3.00	1.00	23-Jun-2001	11.10	Laser
43	0.00	75	2.00	17-Dec-2004	2.00	4.00	0.00	30-Apr-2007	28.80	NO TRT
44	1.00	54	0.00	06-Dec-2004	2.00	4.00	1.00	06-Nov-2005	11.17	Chemo
45	0.00	78	2.00	26-Nov-2001	2.00	1.00	1.00	16-Sep-2002	9.80	Laser
46	1.00	62	0.00	08-Oct-2002	2.00	4.00	1.00	05-Jun-2003	8.00	Chemo
47	0.00	57	0.00	08-Jun-2000	2.00	4.00	1.00	04-Aug-2000	1.90	Laser
48	1.00	65	1.00	01-Dec-2003	2.00	4.00	1.00	12-Jan-2004	1.40	Chemo
49	1.00	47	0.00	07-Dec-2004	2.00	4.00	1.00	26-Dec-2004	0.63	None
50	1.00	63	0.00	04-May-2001	2.00	4.00	1.00	30-May-2001	0.87	None
51	1.00	64	0.00	10-Oct-2005	2.00	4.00	1.00	29-Oct-2006	12.80	CHEMO
52	0.00	65	1.00	29-Jun-2005	2.00	2.00	0.00	30-Apr-2007	22.33	LASER
53	1.00	74	1.00	13-Jun-2005	2.00	3.00	0.00	30-Apr-2007	22.87	ONCOL
54	1.00	25	0.00	10-Oct-2005	2.00	4.00	1.00	07-Sep-2006	11.07	CHEMO
55	0.00	55	0.00	13-Mar-2002	2.00	3.00	1.00	08-Oct-2002	6.97	Chemo/DX
56	1.00	68	1.00	22-Jun-2004	2.00	2.00	0.00	30-Apr-2007	34.73	DXT
57	1.00	81	2.00	09-Nov-2005	2.00	2.00	0.00	30-Apr-2007	17.90	LASER
58	1.00	64	0.00	07-Dec-2004	2.00	4.00	1.00	10-Oct-2005	10.23	DXT

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
59	0.00	64	0.00	16-Jul-2004	2.00	4.00	1.00	10-Oct-2004	2.87	DXT
60	1.00	64	0.00	12-Nov-2002	2.00	1.00	1.00	16-Jan-2004	14.33	Chemo
61	0.00	55	0.00	19-Jun-2003	2.00	4.00	1.00	21-Sep-2003	3.13	Chemo
62	1.00	42	0.00	23-Jan-2003	2.00	4.00	1.00	23-Oct-2003	9.10	Chemo
63	0.00	59	0.00	11-Oct-2000	2.00	4.00	1.00	20-May-2001	7.37	None
64	1.00	75	2.00	27-Jun-2001	2.00	4.00	1.00	13-Sep-2001	2.60	Laser
65	1.00	81	2.00	07-Jul-2005	3.00	4.00	1.00	31-Dec-2005	5.90	Laser
66	0.00	76	2.00	25-Jun-2004	3.00	2.00	1.00	10-Jul-2004	0.50	Laser
67	1.00	62	0.00	09-May-2003	3.00	4.00	1.00	23-May-2003	0.47	None
68	0.00	77	2.00	07-Mar-2003	3.00	4.00	1.00	17-Apr-2003	1.37	None
69	1.00	86	2.00	04-Aug-2003	3.00	4.00	1.00	04-Sep-2003	1.03	None
70	0.00	76	2.00	23-Jun-2005	3.00	2.00	1.00	02-Oct-2006	15.53	GASTRO-J
71	1.00	77	2.00	07-Dec-2004	3.00	3.00	0.00	30-Apr-2007	29.13	Stent
72	0.00	85	2.00	24-Oct-2005	3.00	3.00	1.00	09-Feb-2006	3.60	LASER
73	0.00	84	2.00	06-Nov-2001	3.00	4.00	1.00	26-Mar-2002	4.67	Laser
74	0.00	70	1.00	09-Jun-2000	3.00	4.00	1.00	02-Sep-2000	2.83	gastro-j
75	0.00	76	2.00	30-May-2003	3.00	4.00	1.00	04-Aug-2003	2.20	Chemo &
76	1.00	77	2.00	12-Dec-2005	3.00	4.00	1.00	24-Dec-2005	0.40	LASER
77	1.00	57	0.00	22-Feb-2002	3.00	4.00	1.00	16-Mar-2002	0.73	gastro-j
78	1.00	77	2.00	24-Apr-2001	3.00	2.00	1.00	23-Jun-2002	14.17	Chemo/DX
79	0.00	76	2.00	26-Mar-2004	3.00	4.00	1.00	03-Jun-2004	2.30	None
80	0.00	74	1.00	18-Nov-2003	3.00	4.00	1.00	01-Feb-2004	2.50	None
81	0.00	69	1.00	26-Feb-2002	3.00	4.00	1.00	01-Apr-2002	1.13	Chemo
82	1.00	83	2.00	21-Nov-2000	3.00	2.00	1.00	14-Jan-2001	1.80	None
83	0.00	84	2.00	28-Apr-2000	3.00	1.00	1.00	06-Dec-2000	7.40	None
84	0.00	92	2.00	23-Dec-2003	3.00	2.00	1.00	01-May-2004	4.33	Stent
85	1.00	81	2.00	04-May-2004	3.00	2.00	1.00	09-May-2005	12.33	Laser
86	0.00	82	2.00	14-Oct-2005	3.00	4.00	1.00	10-Jan-2006	2.93	LASER
87	0.00	84	2.00	18-Aug-2005	3.00	2.00	0.00	30-Apr-2007	20.67	Laser

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
88	0.00	62	0.00	30-Dec-2004	3.00	4.00	1.00	08-Feb-2005	1.33	DXT
89	0.00	52	0.00	05-Jul-2005	3.00	4.00	1.00	22-Aug-2005	1.60	STENT
90	0.00	76	2.00	05-Oct-2001	3.00	3.00	1.00	18-Nov-2001	1.47	Laser
91	0.00	57	0.00	16-Jan-2002	3.00	4.00	1.00	21-Sep-2002	8.27	gastro-j
92	1.00	81	2.00	03-Nov-2003	3.00	1.00	1.00	20-Oct-2005	23.90	Laser
93	0.00	65	1.00	30-Apr-2003	3.00	4.00	1.00	23-May-2003	0.77	gastro-j
94	0.00	56	0.00	07-Mar-2005	3.00	4.00	1.00	20-Sep-2005	6.57	CHEMO
95	0.00	85	2.00	21-Jun-2001	3.00	1.00	1.00	10-Jul-2001	0.63	Laser
96	1.00	44	0.00	21-May-2002	3.00	3.00	1.00	10-Aug-2002	2.70	gastro-j
97	0.00	81	2.00	02-Sep-2004	4.00	4.00	1.00	21-Oct-2004	1.63	None
98	0.00	60	0.00	10-Jun-2002	4.00	4.00	1.00	12-Feb-2003	8.23	Chemo/DX
99	0.00	60	0.00	03-Dec-2004	4.00	4.00	2.00	21-Dec-2004	0.60	CH/DXT &
100	1.00	84	2.00	05-Jul-2000	4.00	4.00	1.00	09-Jul-2000	0.13	None
101	1.00	75	2.00	04-Dec-2003	4.00	4.00	1.00	27-May-2004	5.83	None
102	0.00	75	2.00	14-Sep-2004	4.00	3.00	1.00	03-Nov-2005	13.83	Chemo/DX
103	0.00	45	0.00	10-Jan-2001	4.00	4.00	1.00	15-Aug-2001	7.23	gastro-j
104	1.00	73	1.00	23-Oct-2001	4.00	4.00	1.00	19-Apr-2002	5.93	Chemo/DX
105	0.00	75	2.00	08-Jan-2002	4.00	4.00	1.00	11-Feb-2002	1.13	Chemo/DX
106	1.00	71	1.00	05-Jul-2002	4.00	4.00	1.00	27-Aug-2002	1.77	Laser
107	1.00	79	2.00	10-Jun-2002	4.00	4.00	1.00	24-Jul-2002	1.47	None
108	1.00	83	2.00	02-Mar-2001	4.00	4.00	1.00	18-Sep-2001	6.67	Laser
109	0.00	74	1.00	05-Sep-2005	4.00	3.00	1.00	15-Jun-2006	9.43	ONCOL
110	0.00	64	0.00	23-Aug-2004	4.00	4.00	1.00	04-Nov-2004	2.43	Laser
111	0.00	56	0.00	19-Oct-2001	4.00	4.00	1.00	27-Dec-2001	2.30	Chemo/DX
112	0.00	79	2.00	12-Sep-2003	4.00	3.00	1.00	01-Oct-2004	12.83	None
113	1.00	67	1.00	14-Sep-2005	4.00	4.00	1.00	01-Mar-2006	5.60	ONCOL
114	0.00	76	2.00	24-Aug-2004	4.00	4.00	1.00	05-Oct-2004	1.40	None
115	0.00	49	0.00	01-May-2002	4.00	4.00	1.00	27-May-2002	0.87	Laser
116	0.00	68	1.00	24-Sep-2003	4.00	4.00	1.00	31-Dec-2003	3.27	Laser

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
117	0.00	73	1.00	16-Jul-2004	4.00	4.00	1.00	30-Sep-2005	14.70	Chemo
118	0.00	84	2.00	20-Mar-2000	4.00	1.00	2.00	23-Oct-2002	31.57	Laser
119	1.00	53	0.00	24-Feb-2004	4.00	4.00	0.00	30-Apr-2007	38.70	Chemo
120	0.00	43	0.00	06-Jan-2003	4.00	4.00	1.00	28-Aug-2003	7.80	Chemo
121	0.00	70	1.00	30-Nov-2004	4.00	3.00	1.00	19-Jun-2005	6.70	Chemo/DX
122	1.00	65	1.00	16-Aug-2005	4.00	4.00	1.00	21-Aug-2006	12.33	ONCOL
123	0.00	47	0.00	02-Mar-2002	4.00	4.00	1.00	25-May-2002	2.80	Chemo
124	0.00	30	0.00	16-Oct-2003	4.00	4.00	1.00	13-Jan-2004	2.97	None
125	1.00	89	2.00	12-Aug-2002	4.00	4.00	1.00	04-Nov-2002	2.80	Laser
126	0.00	80	2.00	09-Jun-2003	4.00	3.00	1.00	16-Oct-2004	16.50	Laser
127	1.00	80	2.00	18-Apr-2000	4.00	4.00	1.00	29-Jul-2000	3.40	None
128	0.00	65	1.00	21-Feb-2002	4.00	3.00	1.00	29-Apr-2003	14.40	Chemo
129	1.00	79	2.00	23-Nov-2004	4.00	4.00	1.00	04-May-2005	5.40	None
130	1.00	83	2.00	06-Jan-2004	4.00	4.00	1.00	10-Jun-2004	5.20	Laser
131	0.00	58	0.00	12-Apr-2002	4.00	2.00	1.00	21-Nov-2002	7.43	Chemo
132	1.00	63	0.00	23-Aug-2002	4.00	4.00	1.00	04-Oct-2002	1.40	None
133	0.00	45	0.00	01-Mar-2002	4.00	4.00	1.00	30-May-2002	3.00	Chemo
134	1.00	66	1.00	14-Jul-2005	4.00	4.00	0.00	30-Apr-2007	21.83	ONCOL
135	1.00	46	0.00	20-Jul-2001	4.00	4.00	1.00	13-Jun-2002	10.93	Chemo/DX
136	0.00	70	1.00	09-Oct-2001	4.00	4.00	1.00	18-Jan-2002	3.37	Stent
137	1.00	34	0.00	07-Dec-2001	4.00	4.00	1.00	12-Jun-2002	6.23	Chemo
138	1.00	34	0.00	06-Dec-2001	4.00	4.00	1.00	03-Dec-2002	12.07	Chemo/DX
139	0.00	42	0.00	17-Mar-2004	5.00	4.00	1.00	24-Apr-2004	1.27	None
140	0.00	81	2.00	11-Oct-2004	5.00	1.00	1.00	01-Dec-2005	13.87	Laser
141	0.00	75	2.00	05-May-2004	5.00	4.00	1.00	03-Feb-2005	9.13	Chemo/DX
142	0.00	78	2.00	03-Jun-2005	5.00	2.00	0.00	30-Apr-2007	23.20	LASER
143	1.00	76	2.00	06-Aug-2001	5.00	1.00	1.00	16-Feb-2003	18.63	Laser
144	1.00	77	2.00	19-Dec-2003	5.00	3.00	1.00	07-Oct-2004	9.77	Chemo &
145	0.00	69	1.00	15-Feb-2005	5.00	4.00	1.00	18-Apr-2005	2.07	LASER

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
146	0.00	80	2.00	09-Apr-2001	5.00	1.00	1.00	25-Dec-2002	20.83	Laser
147	0.00	71	1.00	13-May-2004	5.00	1.00	1.00	09-Jan-2007	32.37	Laser
148	0.00	52	0.00	11-Jul-2001	1.00	1.00	1.00	31-Mar-2002	8.77	surgery
149	1.00	74	1.00	02-Mar-2005	2.00	1.00	2.00	24-Jun-2005	3.80	surgery
150	0.00	52	0.00	10-May-2004	2.00	1.00	1.00	25-Nov-2004	6.63	surgery
151	0.00	61	0.00	22-May-2000	2.00	1.00	0.00	28-Feb-2007	82.43	surgery
152	0.00	68	1.00	30-Jun-2004	2.00	1.00	0.00	28-Feb-2007	32.43	surgery
153	0.00	42	0.00	18-Aug-2004	2.00	1.00	0.00	28-Feb-2007	30.80	surgery
154	0.00	71	1.00	16-May-2001	3.00	1.00	0.00	28-Feb-2007	70.47	surgery
155	0.00	36	0.00	04-May-2005	3.00	1.00	0.00	28-Feb-2007	22.17	surgery
156	0.00	76	2.00	11-Jun-2003	3.00	1.00	0.00	28-Feb-2007	45.27	surgery
157	1.00	47	0.00	18-Aug-2005	3.00	1.00	0.00	28-Feb-2007	18.63	surgery
158	0.00	59	0.00	29-Mar-1999	3.00	1.00	0.00	28-Feb-2007	96.43	surgery
159	0.00	61	0.00	20-Dec-2000	5.00	1.00	1.00	16-Dec-2003	36.37	surgery
160	0.00	64	0.00	10-Jan-2001	5.00	1.00	0.00	28-Feb-2007	74.67	surgery
161	0.00	64	0.00	05-Sep-2002	1.00	2.00	1.00	18-Jun-2003	9.53	surgery
162	0.00	66	1.00	11-Jun-2001	1.00	2.00	1.00	18-Aug-2002	14.43	surgery
163	0.00	75	2.00	08-Nov-2000	1.00	1.00	0.00	28-Feb-2007	76.77	surgery
164	1.00	72	1.00	11-Apr-2001	1.00	1.00	0.00	28-Feb-2007	71.63	surgery
165	1.00	48	0.00	03-Jul-2002	1.00	2.00	0.00	28-Feb-2007	56.70	surgery
166	0.00	67	1.00	12-Jan-2005	2.00	1.00	0.00	28-Feb-2007	25.90	surgery
167	1.00	59	0.00	29-May-2000	2.00	1.00	0.00	28-Feb-2007	82.20	surgery
168	0.00	68	1.00	24-Jun-2002	2.00	2.00	0.00	28-Feb-2007	57.00	surgery
169	1.00	88	2.00	12-Aug-1999	3.00	4.00	1.00	05-Aug-2000	11.97	surgery
170	1.00	63	0.00	06-May-1999	3.00	2.00	0.00	28-Feb-2007	95.17	surgery
171	0.00	50	0.00	23-Feb-2005	3.00	2.00	0.00	28-Feb-2007	24.50	surgery
172	0.00	48	0.00	01-Dec-1999	3.00	1.00	0.00	28-Feb-2007	88.20	surgery
173	0.00	67	1.00	24-Jan-2001	3.00	2.00	0.00	28-Feb-2007	74.20	surgery
174	0.00	70	1.00	17-Apr-2002	3.00	1.00	0.00	28-Feb-2007	59.27	surgery

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
175	1.00	76	2.00	15-Dec-2005	3.00	1.00	0.00	28-Feb-2007	14.67	surgery
176	0.00	60	0.00	06-Nov-2000	4.00	1.00	1.00	22-Sep-2001	10.67	surgery
177	0.00	71	1.00	16-Nov-2000	4.00	3.00	1.00	27-Oct-2001	11.50	surgery
178	0.00	69	1.00	30-Mar-2005	5.00	1.00	0.00	28-Feb-2007	23.33	surgery
179	0.00	64	0.00	07-Sep-2005	5.00	1.00	0.00	28-Feb-2007	17.97	surgery
180	0.00	59	0.00	29-May-2002	5.00	1.00	0.00	28-Feb-2007	57.87	surgery
181	1.00	73	1.00	26-Mar-2001	1.00	4.00	1.00	26-Aug-2001	5.10	surgery
182	0.00	68	1.00	31-Dec-1997	1.00	3.00	1.00	26-Mar-2000	27.20	surgery
183	1.00	77	2.00	24-Mar-2003	1.00	3.00	1.00	01-Sep-2003	5.37	surgery
184	0.00	34	0.00	22-Mar-2000	1.00	3.00	1.00	04-Aug-2001	16.67	surgery
185	0.00	41	0.00	17-Aug-2000	1.00	3.00	0.00	28-Feb-2007	79.53	surgery
186	0.00	59	0.00	05-Dec-2001	1.00	3.00	0.00	28-Feb-2007	63.70	surgery
187	1.00	58	0.00	09-Jun-2005	1.00	3.00	1.00	31-May-2006	11.87	surgery
188	0.00	74	1.00	13-Oct-2005	1.00	4.00	0.00	28-Feb-2007	16.77	surgery
189	0.00	51	0.00	16-Sep-1998	1.00	3.00	0.00	28-Feb-2007	102.90	surgery
190	0.00	68	1.00	20-Mar-2002	1.00	3.00	1.00	22-Mar-2003	12.23	surgery
191	1.00	74	1.00	28-Apr-1997	2.00	3.00	1.00	08-Oct-1999	29.77	surgery
192	0.00	76	2.00	03-May-2000	2.00	3.00	1.00	30-Apr-2001	12.07	surgery
193	0.00	65	1.00	04-Aug-2005	2.00	3.00	0.00	28-Feb-2007	19.10	surgery
194	0.00	51	0.00	24-Nov-2005	2.00	2.00	0.00	28-Feb-2007	15.37	surgery
195	0.00	64	0.00	01-Sep-2005	2.00	3.00	0.00	28-Feb-2007	18.17	surgery
196	0.00	73	1.00	13-Oct-1999	2.00	3.00	1.00	14-Dec-2003	50.77	surgery
197	1.00	75	2.00	31-May-2001	3.00	3.00	1.00	23-May-2002	11.90	surgery
198	1.00	77	2.00	17-May-2004	3.00	3.00	0.00	28-Feb-2007	33.90	Surgery
199	0.00	56	0.00	21-Jun-2000	3.00	3.00	1.00	01-Jan-2005	55.17	Surgery
200	1.00	68	1.00	16-Jun-1997	3.00	3.00	1.00	08-Dec-1999	30.17	Surgery
201	1.00	67	1.00	01-Jun-2000	3.00	3.00	1.00	08-Feb-2001	8.40	Surgery
202	0.00	70	1.00	01-Nov-2002	3.00	2.00	1.00	13-Jul-2005	32.83	Surgery
203	0.00	75	2.00	03-Sep-2002	3.00	3.00	1.00	30-Jan-2004	17.13	Surgery

Patient	m0f1	age	agecd	dateendo	positcd	tnmstcd	a0c1n2	doffu	survmths	treatment
204	0.00	67	1.00	24-Aug-2005	3.00	3.00	0.00	28-Feb-2007	18.43	Surgery
205	0.00	66	1.00	05-Jul-1999	3.00	2.00	1.00	14-Feb-2003	44.00	Surgery
206	1.00	34	0.00	16-Jul-1997	3.00	3.00	1.00	30-Jul-1998	12.63	Surgery
207	1.00	41	0.00	14-Nov-2001	3.00	2.00	1.00	08-Oct-2002	10.93	Surgery
208	0.00	60	0.00	30-Jun-1997	3.00	3.00	0.00	28-Feb-2007	117.67	Surgery
209	0.00	72	1.00	21-Oct-1998	3.00	2.00	1.00	29-Nov-2004	74.37	Surgery
210	1.00	31	0.00	16-Feb-2005	3.00	2.00	0.00	28-Feb-2007	24.73	Surgery
211	1.00	83	2.00	08-Dec-2005	4.00	3.00	0.00	28-Feb-2007	14.90	Surgery
212	0.00	70	1.00	20-Aug-2003	4.00	3.00	1.00	25-Mar-2004	7.27	Surgery
213	0.00	56	0.00	07-Jan-1998	4.00	3.00	2.00	12-Feb-1998	1.20	Surgery
214	0.00	74	1.00	10-Sep-2003	5.00	3.00	1.00	15-Dec-2005	27.57	Surgery
215	0.00	60	0.00	06-Oct-2004	5.00	3.00	0.00	28-Feb-2007	29.17	Surgery
216	0.00	72	1.00	09-Jan-2002	5.00	2.00	0.00	28-Feb-2007	62.53	Surgery
217	1.00	73	1.00	26-Jan-2005	5.00	3.00	0.00	28-Feb-2007	25.43	Surgery

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
1	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
2	1.00	96.00	1.98	1.00	30.00	1.00	2.00	2.00
3	1.00	23.00	1.36	1.00	32.00	1.00	2.00	2.00
4	2.00	16.00	1.20	1.00	33.00	1.00	2.00	2.00
5	2.00	117.00	2.07	1.00	33.00	1.00	2.00	2.00
6	2.00	11.00	1.04	1.00	34.00	1.00	2.00	2.00
7	1.00	6.00	0.78	0.00	35.00	0.00	0.00	0.00
8	1.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
9	1.00	28.00	1.45	1.00	37.00	0.00	1.00	1.00
10	1.00	42.00	1.62	1.00	37.00	0.00	1.00	1.00
11	1.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
12	1.00	43.00	1.63	1.00	39.00	0.00	1.00	1.00
13	1.00	52.00	1.72	1.00	39.00	0.00	1.00	1.00
14	1.00	21.00	1.32	1.00	40.00	0.00	1.00	1.00
15	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
16	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
17	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
18	1.00	9.00	0.95	0.00	46.00	0.00	0.00	0.00
19	1.00	11.00	1.04	1.00	48.00	0.00	1.00	1.00
20	1.00	217.00	2.34	1.00	28.00	1.00	2.00	2.00
21	2.00	10.00	1.00	0.00	33.00	1.00	1.00	0.00
22	1.00	88.00	1.94	1.00	35.00	0.00	1.00	1.00
23	2.00	109.00	2.04	1.00	35.00	0.00	1.00	1.00
24	1.00	38.00	1.58	1.00	39.00	0.00	1.00	1.00
25	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
26	2.00	8.00	0.90	0.00	44.00	0.00	0.00	0.00
27	1.00	6.00	0.78	0.00	46.00	0.00	0.00	0.00
28	1.00	58.00	1.76	1.00	27.00	1.00	2.00	2.00
29	1.00	64.00	1.81	1.00	28.00	1.00	2.00	2.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
30	1.00	29.00	1.46	1.00	31.00	1.00	2.00	2.00
31	1.00	157.00	2.20	1.00	32.00	1.00	2.00	2.00
32	1.00	24.00	1.38	1.00	33.00	1.00	2.00	2.00
33	1.00	6.00	0.78	0.00	34.00	1.00	1.00	0.00
34	1.00	10.00	1.00	0.00	34.00	1.00	1.00	0.00
35	1.00	19.00	1.28	1.00	34.00	1.00	2.00	2.00
36	1.00	68.00	1.83	1.00	34.00	1.00	2.00	2.00
37	1.00	15.00	1.18	1.00	35.00	0.00	1.00	1.00
38	2.00	10.00	1.00	0.00	36.00	0.00	0.00	0.00
39	1.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
40	1.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
41	1.00	8.00	0.90	0.00	37.00	0.00	0.00	0.00
42	1.00	13.00	1.11	1.00	37.00	0.00	1.00	1.00
43	2.00	17.00	1.23	1.00	37.00	0.00	1.00	1.00
44	1.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
45	1.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
46	1.00	89.00	1.95	1.00	38.00	0.00	1.00	1.00
47	1.00	96.00	1.98	1.00	38.00	0.00	1.00	1.00
48	1.00	53.00	1.72	1.00	40.00	0.00	1.00	1.00
49	2.00	79.00	1.90	1.00	40.00	0.00	1.00	1.00
50	2.00	89.00	1.95	1.00	40.00	0.00	1.00	1.00
51	1.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
52	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
53	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
54	1.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
55	1.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
56	1.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
57	1.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
58	1.00	7.00	0.85	0.00	43.00	0.00	0.00	0.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
59	1.00	11.00	1.04	1.00	43.00	0.00	1.00	1.00
60	1.00	18.00	1.26	1.00	43.00	0.00	1.00	1.00
61	1.00	26.00	1.41	1.00	43.00	0.00	1.00	1.00
62	1.00	6.00	0.78	0.00	48.00	0.00	0.00	0.00
63	2.00	17.00	1.23	1.00	48.00	0.00	1.00	1.00
64	1.00	42.00	1.62	1.00	49.00	0.00	1.00	1.00
65	1.00	26.00	1.41	1.00	7.00	1.00	2.00	2.00
66	1.00	20.00	1.30	1.00	24.00	1.00	2.00	2.00
67	2.00	29.00	1.46	1.00	28.00	1.00	2.00	2.00
68	2.00	31.00	1.49	1.00	28.00	1.00	2.00	2.00
69	2.00	38.00	1.58	1.00	28.00	1.00	2.00	2.00
70	1.00	8.00	0.90	0.00	30.00	1.00	1.00	0.00
71	2.00	6.00	0.78	0.00	31.00	1.00	1.00	0.00
72	1.00	21.00	1.32	1.00	32.00	1.00	2.00	2.00
73	1.00	82.00	1.91	1.00	34.00	1.00	2.00	2.00
74	1.00	14.00	1.15	1.00	35.00	0.00	1.00	1.00
75	1.00	65.00	1.81	1.00	35.00	0.00	1.00	1.00
76	1.00	16.00	1.20	1.00	36.00	0.00	1.00	1.00
77	1.00	28.00	1.45	1.00	36.00	0.00	1.00	1.00
78	1.00	47.00	1.67	1.00	36.00	0.00	1.00	1.00
79	2.00	89.00	1.95	1.00	36.00	0.00	1.00	1.00
80	2.00	171.00	2.23	1.00	36.00	0.00	1.00	1.00
81	1.00	44.00	1.64	1.00	37.00	0.00	1.00	1.00
82	2.00	8.00	0.90	0.00	38.00	0.00	0.00	0.00
83	2.00	18.00	1.26	1.00	38.00	0.00	1.00	1.00
84	2.00	64.00	1.81	1.00	38.00	0.00	1.00	1.00
85	1.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
86	1.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
87	1.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
88	1.00	15.00	1.18	1.00	39.00	0.00	1.00	1.00
89	2.00	11.00	1.04	1.00	40.00	0.00	1.00	1.00
90	1.00	22.00	1.34	1.00	41.00	0.00	1.00	1.00
91	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
92	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
93	1.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
94	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
95	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
96	1.00	45.00	1.65	1.00	44.00	0.00	1.00	1.00
97	2.00	23.00	1.36	1.00	28.00	1.00	2.00	2.00
98	1.00	43.00	1.63	1.00	28.00	1.00	2.00	2.00
99	1.00	171.00	2.23	1.00	28.00	1.00	2.00	2.00
100	2.00	99.00	2.00	1.00	29.00	1.00	2.00	2.00
101	2.00	253.00	2.40	1.00	29.00	1.00	2.00	2.00
102	1.00	10.00	1.00	0.00	30.00	1.00	1.00	0.00
103	1.00	41.00	1.61	1.00	30.00	1.00	2.00	2.00
104	1.00	23.00	1.36	1.00	32.00	1.00	2.00	2.00
105	1.00	94.00	1.97	1.00	32.00	1.00	2.00	2.00
106	1.00	120.00	2.08	1.00	32.00	1.00	2.00	2.00
107	2.00	74.00	1.87	1.00	33.00	1.00	2.00	2.00
108	1.00	7.00	0.85	0.00	34.00	1.00	1.00	0.00
109	1.00	10.00	1.00	0.00	34.00	1.00	1.00	0.00
110	1.00	19.00	1.28	1.00	34.00	1.00	2.00	2.00
111	1.00	73.00	1.86	1.00	35.00	0.00	1.00	1.00
112	2.00	12.00	1.08	1.00	37.00	0.00	1.00	1.00
113	1.00	35.00	1.54	1.00	37.00	0.00	1.00	1.00
114	2.00	38.00	1.58	1.00	37.00	0.00	1.00	1.00
115	1.00	39.00	1.59	1.00	37.00	0.00	1.00	1.00
116	1.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
117	1.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
118	1.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
119	1.00	8.00	0.90	0.00	38.00	0.00	0.00	0.00
120	1.00	190.00	2.28	1.00	38.00	0.00	1.00	1.00
121	1.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
122	1.00	12.00	1.08	1.00	39.00	0.00	1.00	1.00
123	1.00	57.00	1.76	1.00	39.00	0.00	1.00	1.00
124	2.00	8.00	0.90	0.00	40.00	0.00	0.00	0.00
125	1.00	8.00	0.90	0.00	40.00	0.00	0.00	0.00
126	1.00	24.00	1.38	1.00	40.00	0.00	1.00	1.00
127	2.00	30.00	1.48	1.00	40.00	0.00	1.00	1.00
128	1.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
129	2.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
130	1.00	8.00	0.90	0.00	42.00	0.00	0.00	0.00
131	1.00	36.00	1.56	1.00	42.00	0.00	1.00	1.00
132	2.00	171.00	2.23	1.00	42.00	0.00	1.00	1.00
133	1.00	96.00	1.98	1.00	43.00	0.00	1.00	1.00
134	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
135	1.00	8.00	0.90	0.00	44.00	0.00	0.00	0.00
136	2.00	8.00	0.90	0.00	44.00	0.00	0.00	0.00
137	1.00	6.00	0.78	0.00	46.00	0.00	0.00	0.00
138	1.00	11.00	1.04	1.00	46.00	0.00	1.00	1.00
139	2.00	30.00	1.48	1.00	22.00	1.00	2.00	2.00
140	1.00	60.00	1.78	1.00	25.00	1.00	2.00	2.00
141	1.00	6.00	0.78	0.00	32.00	1.00	1.00	0.00
142	1.00	8.00	0.90	0.00	34.00	1.00	1.00	0.00
143	1.00	6.00	0.78	0.00	36.00	0.00	0.00	0.00
144	1.00	15.00	1.18	1.00	40.00	0.00	1.00	1.00
145	1.00	26.00	1.41	1.00	40.00	0.00	1.00	1.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
146	1.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
147	1.00	6.00	0.78	0.00	45.00	0.00	0.00	0.00
148	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
149	0.00	33.00	1.52	1.00	32.00	1.00	2.00	2.00
150	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
151	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
152	0.00	6.00	0.78	0.00	45.00	0.00	0.00	0.00
153	0.00	6.00	0.78	0.00	46.00	0.00	0.00	0.00
154	0.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
155	0.00	6.00	0.78	0.00	40.00	0.00	0.00	0.00
156	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
157	0.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
158	0.00	6.00	0.78	0.00	45.00	0.00	0.00	0.00
159	0.00	9.00	0.95	0.00	40.00	0.00	0.00	0.00
160	0.00	7.00	0.85	0.00	42.00	0.00	0.00	0.00
161	0.00	19.00	1.28	1.00	35.00	0.00	1.00	1.00
162	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
163	0.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
164	0.00	8.00	0.90	0.00	44.00	0.00	0.00	0.00
165	0.00	6.00	0.78	0.00	45.00	0.00	0.00	0.00
166	0.00	10.00	1.00	0.00	40.00	0.00	0.00	0.00
167	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
168	0.00	7.00	0.85	0.00	44.00	0.00	0.00	0.00
169	0.00	6.00	0.78	0.00	36.00	0.00	0.00	0.00
170	0.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
171	0.00	6.00	0.78	0.00	40.00	0.00	0.00	0.00
172	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
173	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
174	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
175	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
176	0.00	36.00	1.56	1.00	37.00	0.00	1.00	1.00
177	0.00	17.00	1.23	1.00	38.00	0.00	1.00	1.00
178	0.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
179	0.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
180	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
181	0.00	8.00	0.90	0.00	35.00	0.00	0.00	0.00
182	0.00	15.00	1.18	1.00	40.00	0.00	1.00	1.00
183	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
184	0.00	12.00	1.08	1.00	44.00	0.00	1.00	1.00
185	0.00	6.00	0.78	0.00	46.00	0.00	0.00	0.00
186	0.00	8.00	0.90	0.00	46.00	0.00	0.00	0.00
187	0.00	6.00	0.78	0.00	31.00	1.00	1.00	0.00
188	0.00	41.00	1.61	1.00	40.00	0.00	1.00	1.00
189	0.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
190	0.00	9.00	0.95	0.00	45.00	0.00	0.00	0.00
191	0.00	21.00	1.32	1.00	36.00	0.00	1.00	1.00
192	0.00	6.00	0.78	0.00	40.00	0.00	0.00	0.00
193	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
194	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
195	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
196	0.00	6.00	0.78	0.00	44.00	0.00	0.00	0.00
197	0.00	6.00	0.78	0.00	34.00	1.00	1.00	0.00
198	0.00	6.00	0.78	0.00	37.00	0.00	0.00	0.00
199	0.00	9.00	0.95	0.00	38.00	0.00	0.00	0.00
200	0.00	11.00	1.04	1.00	38.00	0.00	1.00	1.00
201	0.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
202	0.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
203	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00

Patient	treatcd3	crpfinal	logcrp	cfinalcd	albfinal	Albfincd	gps	Mgps
204	0.00	34.00	1.53	1.00	41.00	0.00	1.00	1.00
205	0.00	6.00	0.78	0.00	42.00	0.00	0.00	0.00
206	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
207	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
208	0.00	6.00	0.78	0.00	43.00	0.00	0.00	0.00
209	0.00	6.00	0.78	0.00	46.00	0.00	0.00	0.00
210	0.00	6.00	0.78	0.00	47.00	0.00	0.00	0.00
211	0.00	6.00	0.78	0.00	36.00	0.00	0.00	0.00
212	0.00	9.00	0.95	0.00	37.00	0.00	0.00	0.00
213	0.00	6.00	0.78	0.00	38.00	0.00	0.00	0.00
214	0.00	6.00	0.78	0.00	39.00	0.00	0.00	0.00
215	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
216	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00
217	0.00	6.00	0.78	0.00	41.00	0.00	0.00	0.00

APPENDIX 6: DATABASE FOR CHAPTER 7:

COMPARISON OF PRE-TREATMENT CLINICAL PROGNOSTIC FACTORS IN PATIENTS WITH GASTRO-OESOPHAGEAL CANCER AND PROPOSAL OF A NEW STAGING SYSTEM.

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	site	positcd	histolog	typecd	a0c1n2
1	1.00	53	0	1.00	0.00	4.00	94.00	24-Feb-2004	gastric	1.00	adeno	0.00	0.00
2	1.00	82	2	0.00	0.00	1.00	0.00	15-Jan-2003	oesoph	0.00	squam	1.00	0.00
3	0.00	82	2	0.00	0.00	3.00	46.00	01-Oct-2002	Oesoph	0.00	adeno	0.00	0.00
4	0.00	65	0	1.00	0.00	3.00	46.00	22-May-2003	Oesoph	0.00	squam	1.00	0.00
5	0.00	79	2	0.00	32.00	2.00	30.00	30-Aug-2004	Oesoph	0.00	adeno	0.00	0.00
6	0.00	73	1	1.00	0.00	3.00	46.00	26-Oct-2004	Oesoph	0.00	squam	1.00	0.00
7	0.00	53	0	1.00	0.00	1.00	30.00	24-Dec-2002	Oesoph	0.00	squam	1.00	0.00
8	1.00	67	1	1.00	0.00	1.00	0.00	30-Aug-2002	Gastric	1.00	adeno	0.00	0.00
9	1.00	57	0	0.00	0.00	4.00	94.00	08-Apr-2004	Oesoph	0.00	squam	1.00	0.00
10	0.00	81	2	0.00	0.00	1.00	0.00	22-Jul-2003	Gastric	1.00	adeno	0.00	0.00
11	0.00	42	0	0.00	0.00	2.00	30.00	18-Aug-2004	G	1.00	adeno	0.00	0.00
12	0.00	68	1	0.00	0.00	1.00	0.00	30-Jun-2004	G	1.00	adeno	0.00	0.00
13	0.00	72	1	0.00	0.00	1.00	0.00	09-Jan-2002	G	1.00	adeno	0.00	0.00
14	0.00	76	2	0.00	0.00	1.00	0.00	11-Jun-2003	G	1.00	adeno	0.00	0.00
15	0.00	59	0	0.00	0.00	1.00	0.00	29-May-2002	G	1.00	adeno	0.00	0.00
16	0.00	58	0	1.00	0.00	3.00	46.00	25-Jul-2002	O	0.00	adeno	0.00	0.00
17	0.00	64	0	0.00	0.00	3.00	46.00	06-Mar-2002	O	0.00	adeno	0.00	0.00
18	0.00	59	0	1.00	0.00	2.00	30.00	17-Mar-2003	O	0.00	squam	1.00	0.00
19	1.00	71	1	0.00	0.00	2.00	30.00	12-May-2004	O	0.00	squam	1.00	0.00
20	0.00	70	1	0.00	0.00	1.00	0.00	17-Apr-2002	G	1.00	adeno	0.00	0.00
21	0.00	68	1	1.00	0.00	1.00	0.00	02-Oct-2002	O	0.00	adeno	0.00	0.00
22	1.00	73	1	0.00	0.00	2.00	30.00	24-Apr-2002	O	0.00	adeno	0.00	0.00
23	1.00	71	1	0.00	0.00	1.00	0.00	25-Jun-2003	O	0.00	squam	1.00	0.00
24	0.00	68	1	1.00	0.00	2.00	30.00	24-Jun-2002	G	1.00	adeno	0.00	0.00
25	0.00	55	0	1.00	0.00	3.00	46.00	10-Sep-2003	O	0.00	adeno	0.00	0.00
26	0.00	46	0	0.00	0.00	2.00	30.00	26-Jun-2003	O	0.00	adeno	0.00	0.00
27	1.00	48	0	0.00	0.00	3.00	46.00	03-Jul-2002	G	1.00	adeno	0.00	0.00
28	0.00	60	0	0.00	0.00	1.00	0.00	06-Oct-2004	G	1.00	adeno	0.00	0.00
29	0.00	56	0	1.00	0.00	2.00	30.00	15-Jan-2003	O	0.00	adeno	0.00	0.00
30	1.00	74	1	1.00	0.00	2.00	30.00	20-Nov-2004	Oesoph	0.00	squam	1.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
31	1.00	54	0	1.00	0.00	4.00	94.00	05-Mar-2002	Oesoph	0.00	squam	1.00	1.00
32	0.00	76	2	0.00	0.00	1.00	0.00	01-Jul-2003	Gastric	1.00	adeno	0.00	1.00
33	0.00	78	2	0.00	0.00	3.00	46.00	13-Apr-2004	Oesoph	0.00	squam	1.00	1.00
34	0.00	62	0	1.00	0.00	4.00	94.00	30-Dec-2004	Gastric	1.00	adeno	0.00	1.00
35	1.00	89	2	0.00	0.00	4.00	94.00	12-Aug-2002	Gastric	1.00	adeno	0.00	1.00
36	0.00	80	2	1.00	0.00	3.00	46.00	28-Jan-2002	Oesoph	0.00	adeno	0.00	1.00
37	0.00	60	0	0.00	32.00	1.00	0.00	20-Oct-2004	Gastric	1.00	adeno	0.00	1.00
38	0.00	49	0	1.00	0.00	4.00	94.00	23-Jun-2004	o/g	0.00	adeno	0.00	1.00
39	0.00	76	2	1.00	0.00	3.00	46.00	22-Jul-2003	Oesoph	0.00	adeno	0.00	1.00
40	1.00	78	2	1.00	0.00	3.00	46.00	28-Mar-2003	Oesoph	0.00	squam	1.00	1.00
41	0.00	64	0	0.00	0.00	4.00	94.00	16-Jul-2004	Gastric	1.00	adeno	0.00	1.00
42	1.00	62	0	1.00	0.00	4.00	94.00	08-Oct-2002	Gastric	1.00	adeno	0.00	1.00
43	1.00	64	0	1.00	0.00	4.00	94.00	06-Jul-2004	Gastric	1.00	adeno	0.00	1.00
44	0.00	88	2	1.00	0.00	3.00	46.00	28-May-2002	Oesoph	0.00	adeno	0.00	1.00
45	1.00	47	0	0.00	0.00	4.00	94.00	07-Dec-2004	Gastric	1.00	adeno	0.00	1.00
46	0.00	48	0	1.00	0.00	4.00	94.00	27-Feb-2003	Oesoph	0.00	adeno	0.00	1.00
47	0.00	70	1	1.00	0.00	3.00	46.00	30-Nov-2004	Gastric	1.00	adeno	0.00	1.00
48	0.00	73	1	0.00	0.00	4.00	94.00	01-Sep-2003	Oesoph	0.00	squam	1.00	1.00
49	1.00	76	2	1.00	0.00	1.00	0.00	14-May-2002	Oesoph	0.00	adeno	0.00	1.00
50	1.00	65	0	1.00	0.00	4.00	94.00	01-Dec-2003	Gastric	1.00	adeno	0.00	1.00
51	0.00	56	0	1.00	0.00	4.00	94.00	20-Oct-2003	Oesoph	0.00	adeno	0.00	1.00
52	1.00	55	0	0.00	0.00	4.00	94.00	21-Dec-2004	o/g	0.00	adeno	0.00	1.00
53	0.00	75	2	1.00	0.00	4.00	94.00	05-May-2004	Gastric	1.00	adeno	0.00	1.00
54	0.00	82	2	1.00	0.00	1.00	0.00	29-Jan-2003	Gastric	1.00	adeno	0.00	1.00
55	1.00	79	2	0.00	0.00	4.00	94.00	23-Nov-2004	Gastric	1.00	adeno	0.00	1.00
56	0.00	66	1	1.00	0.00	4.00	94.00	27-Jul-2004	o/g	0.00	adeno	0.00	1.00
57	0.00	79	2	1.00	68.00	4.00	94.00	01-Apr-2004	o/g	1.00	adeno	0.00	1.00
58	0.00	47	0	1.00	0.00	4.00	94.00	02-Mar-2002	Gastric	1.00	adeno	0.00	1.00
59	0.00	58	0	0.00	0.00	2.00	30.00	12-Apr-2002	Gastric	1.00	adeno	0.00	1.00
60	0.00	67	1	0.00	0.00	4.00	94.00	03-Mar-2003	Oesoph	0.00	squam	1.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
61	0.00	64	0	1.00	0.00	3.00	46.00	01-Mar-2004	Oesoph	0.00	squam	1.00	1.00
62	1.00	79	2	1.00	0.00	4.00	94.00	10-Jun-2002	Gastric	1.00	adeno	0.00	1.00
63	0.00	63	0	0.00	0.00	4.00	94.00	05-Mar-2004	o/g	0.00	adeno	0.00	1.00
64	1.00	69	1	0.00	0.00	3.00	46.00	23-Apr-2003	Oesoph	0.00	squam	1.00	1.00
65	1.00	81	2	1.00	32.00	2.00	30.00	04-May-2004	Gastric	1.00	adeno	0.00	1.00
66	1.00	84	2	0.00	0.00	3.00	46.00	05-Nov-2004	Oesoph	0.00	adeno	0.00	1.00
67	0.00	76	2	1.00	0.00	4.00	94.00	24-Aug-2004	Gastric	1.00	adeno	0.00	1.00
68	0.00	64	0	0.00	0.00	4.00	94.00	23-Aug-2004	o/g	1.00	adeno	0.00	1.00
69	0.00	73	1	1.00	0.00	3.00	46.00	14-Jan-2004	Oesoph	0.00	adeno	0.00	1.00
70	0.00	73	1	1.00	0.00	4.00	94.00	16-Jul-2004	Gastric	1.00	adeno	0.00	1.00
71	0.00	92	2	0.00	0.00	2.00	30.00	23-Dec-2003	Gastric	1.00	adeno	0.00	1.00
72	0.00	60	0	0.00	0.00	4.00	94.00	04-Aug-2003	Oesoph	0.00	squam	1.00	1.00
73	1.00	64	0	0.00	0.00	4.00	94.00	07-Dec-2004	Gastric	1.00	adeno	0.00	1.00
74	0.00	52	0	1.00	0.00	4.00	94.00	05-Jun-2003	o/g	1.00	adeno	0.00	1.00
75	0.00	83	2	1.00	0.00	4.00	94.00	03-Sep-2004	Oesoph	0.00	adeno	0.00	1.00
76	0.00	81	2	0.00	0.00	1.00	0.00	11-Oct-2004	Gastric	1.00	adeno	0.00	1.00
77	0.00	43	0	1.00	0.00	4.00	94.00	06-Jan-2003	o/g	1.00	adeno	0.00	1.00
78	0.00	42	0	1.00	0.00	4.00	94.00	17-Mar-2004	Gastric	1.00	adeno	0.00	1.00
79	1.00	57	0	1.00	0.00	4.00	94.00	22-Feb-2002	Gastric	1.00	adeon	0.00	1.00
80	0.00	74	1	1.00	0.00	4.00	94.00	14-Oct-2003	Gastric	1.00	adeno	0.00	1.00
81	0.00	61	0	1.00	0.00	3.00	46.00	31-Dec-2002	Oesoph	0.00	adeno	0.00	1.00
82	0.00	49	0	1.00	0.00	4.00	94.00	01-May-2002	Gastric	1.00	adeno	0.00	1.00
83	0.00	80	2	0.00	32.00	3.00	46.00	09-Jun-2003	o/g	1.00	adeno	0.00	1.00
84	0.00	65	0	0.00	0.00	4.00	94.00	18-Jun-2002	Oesoph	0.00	squam	1.00	1.00
85	1.00	76	2	1.00	0.00	3.00	46.00	20-Oct-2004	Oesoph	0.00	squam	1.00	1.00
86	0.00	62	0	1.00	0.00	4.00	94.00	16-Aug-2004	o/g	0.00	adeno	0.00	1.00
87	1.00	83	2	1.00	0.00	4.00	94.00	06-Jan-2004	Gastric	1.00	adeno	0.00	1.00
88	0.00	72	1	0.00	0.00	4.00	94.00	30-Jul-2004	Gastric	1.00	adeno	0.00	1.00
89	1.00	82	2	1.00	0.00	2.00	30.00	26-Mar-2002	Oesoph	0.00	adeno	0.00	1.00
90	1.00	94	2	0.00	0.00	2.00	30.00	16-Jan-2004	Oesoph	0.00	adeno	0.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
91	0.00	68	1	0.00	0.00	4.00	94.00	24-Sep-2003	Gastric	1.00	adeno	0.00	1.00
92	0.00	75	2	1.00	0.00	4.00	94.00	17-Jun-2002	Oeosph	0.00	squam	1.00	1.00
93	0.00	76	2	1.00	0.00	3.00	46.00	16-Sep-2002	Oesoph	0.00	adeno	0.00	1.00
94	0.00	75	2	1.00	0.00	3.00	46.00	14-Oct-2004	Oesoph	0.00	squam	1.00	1.00
95	0.00	54	0	1.00	0.00	4.00	94.00	23-Mar-2004	Oesoph	0.00	adeno	0.00	1.00
96	1.00	55	0	0.00	0.00	3.00	46.00	20-Aug-2003	Oesoph	0.00	squam	1.00	1.00
97	0.00	72	1	1.00	0.00	3.00	46.00	12-Nov-2003	Oesoph	0.00	adeno	0.00	1.00
98	1.00	72	1	1.00	0.00	3.00	46.00	11-Jun-2003	Oesoph	0.00	squam	1.00	1.00
99	0.00	83	2	0.00	0.00	4.00	94.00	27-Feb-2004	o/g	1.00	adeno	0.00	1.00
100	0.00	69	1	1.00	0.00	4.00	94.00	14-Jan-2004	Oesoph	0.00	squam	1.00	1.00
101	1.00	77	2	1.00	0.00	3.00	46.00	07-Dec-2004	Gastric	1.00	adeno	0.00	1.00
102	1.00	64	0	1.00	0.00	1.00	0.00	12-Nov-2002	Gastric	1.00	adeno	0.00	1.00
103	0.00	79	2	0.00	0.00	3.00	46.00	10-Nov-2004	Oesoph	0.00	adeno	0.00	1.00
104	0.00	82	2	1.00	0.00	4.00	94.00	27-Sep-2002	Oesoph	0.00	squam	1.00	1.00
105	1.00	61	0	0.00	0.00	4.00	94.00	20-Aug-2002	Oesoph	0.00	squam	1.00	1.00
106	0.00	66	1	0.00	0.00	4.00	94.00	06-Jan-2004	Oesoph	0.00	squam	1.00	1.00
107	1.00	84	2	1.00	0.00	4.00	94.00	05-Feb-2002	Oesoph	0.00	adeno	0.00	1.00
108	1.00	47	0	0.00	0.00	4.00	94.00	09-Sep-2003	Gastric	1.00	adeno	0.00	1.00
109	0.00	75	2	1.00	0.00	3.00	46.00	14-Sep-2004	o/g	1.00	adeno	0.00	1.00
110	0.00	65	0	1.00	0.00	4.00	94.00	11-Oct-2002	Oesoph	0.00	adeno	0.00	1.00
111	1.00	67	1	1.00	0.00	4.00	94.00	26-Nov-2004	Oesoph	0.00	adeno	0.00	1.00
112	1.00	66	1	0.00	0.00	2.00	30.00	19-Sep-2003	Oesoph	0.00	adeno	0.00	1.00
113	1.00	54	0	0.00	0.00	4.00	94.00	06-Dec-2004	Gastric	1.00	adeno	0.00	1.00
114	0.00	72	1	1.00	0.00	3.00	46.00	22-Dec-2003	Oesoph	0.00	squam	1.00	1.00
115	0.00	69	1	1.00	0.00	4.00	94.00	26-Feb-2002	Gastric	1.00	adeno	0.00	1.00
116	0.00	80	2	0.00	0.00	4.00	94.00	30-Jul-2004	Oesoph	0.00	squam	1.00	1.00
117	1.00	41	0	1.00	0.00	4.00	94.00	14-Jun-2004	Gastric	1.00	adeno	0.00	1.00
118	0.00	81	2	1.00	0.00	4.00	94.00	02-Sep-2004	o/g	1.00	adeno	0.00	1.00
119	1.00	82	2	0.00	0.00	1.00	0.00	05-Jul-2002	Oesoph	0.00	squam	1.00	1.00
120	1.00	44	0	1.00	0.00	3.00	46.00	21-May-2002	Gastric	1.00	adeno	0.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
121	0.00	77	2	1.00	0.00	4.00	94.00	07-Mar-2003	Gastric	1.00	adeno	0.00	1.00
122	1.00	81	2	0.00	32.00	1.00	0.00	03-Nov-2003	Gastric	1.00	adeno	0.00	1.00
123	0.00	75	2	1.00	0.00	4.00	94.00	08-Jan-2002	Gastric	1.00	adeno	0.00	1.00
124	0.00	77	2	1.00	0.00	3.00	46.00	12-Apr-2002	Oesoph	0.00	squam	1.00	1.00
125	0.00	81	2	1.00	0.00	3.00	46.00	16-Oct-2003	Oesoph	0.00	adeno	0.00	1.00
126	0.00	79	2	0.00	0.00	3.00	46.00	01-Oct-2004	Oesoph	0.00	squam	1.00	1.00
127	0.00	70	1	0.00	0.00	3.00	46.00	10-May-2004	Oesoph	0.00	adeno	0.00	1.00
128	0.00	76	2	1.00	0.00	4.00	94.00	26-Mar-2004	Gastric	1.00	adeno	0.00	1.00
129	0.00	45	0	1.00	0.00	4.00	94.00	01-Mar-2002	Gastric	1.00	adeno	0.00	1.00
130	1.00	86	2	1.00	0.00	4.00	94.00	04-Aug-2003	Gastric	1.00	adeno	0.00	1.00
131	0.00	46	0	1.00	0.00	2.00	30.00	22-Feb-2002	o/g	0.00	adeno	0.00	1.00
132	0.00	46	0	1.00	0.00	2.00	30.00	22-Feb-2002	Oesoph	0.00	adeno	0.00	1.00
133	0.00	72	1	1.00	0.00	1.00	0.00	04-Sep-2003	Oesoph	0.00	squam	1.00	1.00
134	0.00	55	0	1.00	0.00	3.00	46.00	20-Jan-2004	Oesoph	0.00	squam	1.00	1.00
135	0.00	65	0	1.00	0.00	3.00	46.00	21-Feb-2002	Gastric	1.00	adeno	0.00	1.00
136	0.00	75	2	1.00	0.00	3.00	46.00	19-Feb-2004	Oesoph	0.00	adeno	0.00	1.00
137	0.00	65	0	0.00	0.00	3.00	46.00	23-Apr-2003	Oesoph	0.00	squam	1.00	1.00
138	1.00	75	2	1.00	0.00	4.00	94.00	04-Dec-2003	Gastric	1.00	adeno	0.00	1.00
139	0.00	76	2	1.00	0.00	4.00	94.00	28-Jun-2002	Oesoph	0.00	adeno	0.00	1.00
140	0.00	76	2	1.00	0.00	4.00	94.00	30-May-2003	Gastric	1.00	adeno	0.00	1.00
141	0.00	66	1	1.00	0.00	4.00	94.00	30-Jul-2003	Oesoph	0.00	adeno	0.00	1.00
142	0.00	61	0	1.00	0.00	4.00	94.00	15-Mar-2004	Oesoph	0.00	squam	1.00	1.00
143	1.00	56	0	1.00	0.00	4.00	94.00	08-Aug-2002	Oesoph	0.00	adeno	0.00	1.00
144	0.00	72	1	1.00	0.00	4.00	94.00	26-Nov-2002	Oesoph	0.00	squam	1.00	1.00
145	1.00	83	2	1.00	0.00	4.00	94.00	07-May-2003	Oesoph	0.00	adeno	0.00	1.00
146	1.00	63	0	0.00	0.00	4.00	94.00	23-Aug-2002	Gastric	1.00	adeno	0.00	1.00
147	0.00	84	2	0.00	32.00	1.00	0.00	22-Oct-2004	Gastric	1.00	adeno	0.00	1.00
148	0.00	43	0	1.00	0.00	4.00	94.00	16-Apr-2002	Oesoph	0.00	adeno	0.00	1.00
149	0.00	57	0	1.00	0.00	4.00	94.00	16-Jan-2002	Gastric	1.00	adeno	0.00	1.00
150	1.00	68	1	0.00	0.00	2.00	30.00	22-Jun-2004	Gastric	1.00	adeno	0.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
151	1.00	62	0	0.00	0.00	4.00	94.00	09-May-2003	Gastric	1.00	adeno	0.00	1.00
152	0.00	80	2	1.00	0.00	4.00	94.00	25-Jun-2002	Oesoph	0.00	squam	1.00	1.00
153	0.00	83	2	0.00	0.00	4.00	94.00	21-Oct-2002	o/g	1.00	adeno	0.00	1.00
154	0.00	42	0	1.00	0.00	4.00	94.00	17-Sep-2004	o/g	1.00	adeno	0.00	1.00
155	0.00	75	2	1.00	0.00	3.00	46.00	31-Jan-2003	Oesoph	0.00	adeno	0.00	1.00
156	0.00	76	2	0.00	0.00	4.00	94.00	10-Dec-2002	Oesoph	0.00	adeno	0.00	1.00
157	0.00	56	0	0.00	0.00	3.00	46.00	06-May-2003	Oesoph	0.00	squam	1.00	1.00
158	1.00	82	2	1.00	0.00	3.00	46.00	30-Nov-2004	Oesoph	0.00	squam	1.00	1.00
159	0.00	87	2	1.00	32.00	3.00	46.00	08-Aug-2004	Oesoph	0.00	squam	1.00	1.00
160	0.00	79	2	1.00	32.00	3.00	46.00	12-Sep-2003	Gastric	1.00	adeno	0.00	1.00
161	0.00	74	1	0.00	0.00	4.00	94.00	18-Nov-2003	Gastric	1.00	adeno	0.00	1.00
162	1.00	77	2	1.00	0.00	3.00	46.00	19-Dec-2003	Gastric	1.00	adeno	0.00	1.00
163	1.00	87	2	0.00	68.00	2.00	30.00	19-Mar-2004	Oesoph	0.00	adeno	0.00	1.00
164	0.00	55	0	1.00	0.00	4.00	94.00	19-Jun-2003	Gastric	1.00	adeno	0.00	1.00
165	0.00	52	0	1.00	0.00	4.00	94.00	10-Dec-2002	Oesoph	0.00	adeno	0.00	1.00
166	0.00	78	2	1.00	32.00	4.00	94.00	04-Jun-2004	Oesoph	0.00	squam	1.00	1.00
167	0.00	39	0	0.00	0.00	4.00	94.00	17-Sep-2004	Oesoph	0.00	squam	1.00	1.00
168	1.00	82	2	0.00	0.00	2.00	30.00	29-Mar-2004	Oesoph	0.00	squam	1.00	1.00
169	0.00	89	2	1.00	0.00	3.00	46.00	09-Oct-2002	Oesoph	0.00	squam	1.00	1.00
170	0.00	44	0	0.00	0.00	4.00	94.00	29-Jul-2004	o/g	1.00	adeno	0.00	1.00
171	0.00	55	0	1.00	0.00	3.00	46.00	13-Mar-2002	Gastric	1.00	adeno	0.00	1.00
172	0.00	82	2	1.00	0.00	1.00	0.00	29-Oct-2002	o/g	0.00	adeno	0.00	1.00
173	0.00	60	0	1.00	0.00	4.00	94.00	10-Jun-2002	Gastric	1.00	adeno	0.00	1.00
174	1.00	71	1	1.00	0.00	4.00	94.00	05-Jul-2002	Gastric	1.00	adeno	0.00	1.00
175	0.00	67	1	0.00	0.00	4.00	94.00	09-Apr-2002	Oesoph	0.00	squam	1.00	1.00
176	1.00	70	1	1.00	0.00	4.00	94.00	10-Mar-2004	Oesoph	0.00	adeno	0.00	1.00
177	1.00	68	1	1.00	0.00	3.00	46.00	20-Nov-2003	Oesoph	0.00	squam	1.00	1.00
178	0.00	73	1	1.00	0.00	3.00	46.00	29-Feb-2004	Oesoph	0.00	squam	1.00	1.00
179	1.00	63	0	0.00	0.00	3.00	46.00	18-Oct-2004	Oesoph	0.00	squam	1.00	1.00
180	1.00	71	1	1.00	0.00	4.00	94.00	01-Sep-2004	Oesoph	0.00	adeno	0.00	1.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
181	1.00	77	2	1.00	0.00	4.00	94.00	23-Mar-2004	o/g	1.00	adeno	0.00	1.00
182	0.00	76	2	1.00	32.00	2.00	30.00	25-Jun-2004	Gastric	1.00	adeno	0.00	1.00
183	0.00	71	1	1.00	0.00	2.00	30.00	17-Dec-2002	Oesoph	0.00	squam	1.00	1.00
184	0.00	71	1	1.00	0.00	1.00	0.00	13-May-2004	Gastric	1.00	adeno	0.00	1.00
185	1.00	81	2	0.00	0.00	1.00	0.00	26-Nov-2002	Oesoph	0.00	adeno	0.00	1.00
186	0.00	83	2	0.00	32.00	4.00	94.00	24-Sep-2004	Oesoph	0.00	squam	1.00	1.00
187	0.00	62	0	1.00	0.00	4.00	94.00	21-Jan-2004	Oesoph	0.00	adeno	0.00	1.00
188	0.00	65	0	0.00	0.00	4.00	94.00	30-Apr-2003	Gastric	1.00	adeno	0.00	1.00
189	1.00	42	0	0.00	0.00	4.00	94.00	23-Jan-2003	Gastric	1.00	adeno	0.00	1.00
190	1.00	83	2	1.00	0.00	3.00	46.00	17-Dec-2002	Oesoph	0.00	squam	1.00	1.00
191	0.00	30	0	1.00	0.00	4.00	94.00	16-Oct-2003	o/g	1.00	adeno	0.00	1.00
192	0.00	66	1	1.00	0.00	2.00	30.00	23-Apr-2002	Oesoph	0.00	adeno	0.00	1.00
193	0.00	77	2	0.00	0.00	1.00	0.00	09-Sep-2003	o/g	1.00	adeno	0.00	1.00
194	1.00	70	1	0.00	0.00	2.00	30.00	25-Mar-2003	O	0.00	adeno	0.00	1.00
195	0.00	52	0	1.00	0.00	2.00	30.00	10-May-2004	G	1.00	adeno	0.00	1.00
196	0.00	70	1	1.00	0.00	3.00	46.00	01-Nov-2002	G	1.00	adeno	0.00	1.00
197	0.00	70	1	1.00	0.00	3.00	46.00	20-Aug-2003	G	1.00	adeno	0.00	1.00
198	1.00	46	0	1.00	0.00	2.00	30.00	17-Jun-2004	O	0.00	squam	1.00	1.00
199	0.00	58	0	1.00	0.00	2.00	30.00	28-Apr-2004	O	0.00	squam	1.00	1.00
200	0.00	64	0	0.00	0.00	1.00	0.00	05-Sep-2002	G	1.00	adeno	0.00	1.00
201	0.00	69	1	0.00	0.00	1.00	0.00	04-Feb-2004	O	0.00	adeno	0.00	1.00
202	0.00	75	2	1.00	0.00	2.00	30.00	03-Sep-2002	G	1.00	adeno	0.00	1.00
203	0.00	68	1	1.00	0.00	3.00	46.00	20-Mar-2002	G	1.00	adeno	0.00	1.00
204	0.00	59	0	1.00	0.00	3.00	46.00	27-Aug-2003	O	0.00	adeno	0.00	1.00
205	0.00	68	1	0.00	0.00	3.00	46.00	03-Jun-2002	O	0.00	adeno	0.00	1.00
206	0.00	51	0	1.00	0.00	3.00	46.00	22-Dec-2004	O	0.00	squam	1.00	1.00
207	0.00	74	1	0.00	0.00	3.00	46.00	10-Sep-2003	G	1.00	adeno	0.00	1.00
208	0.00	61	0	1.00	0.00	4.00	94.00	04-Jun-2003	Oesoph	0.00	adeno	0.00	2.00
209	0.00	72	1	0.00	32.00	4.00	94.00	09-Jul-2003	Gastric	1.00	adeno	0.00	2.00
210	0.00	64	0	1.00	0.00	3.00	46.00	08-Oct-2002	Oesoph	0.00	squam	1.00	2.00

Patient	m0f1	age	agecd	weight	karnofer	clinstag	clinstge	dateop	Site	positcd	histolog	typecd	a0c1n2
211	0.00	60	0	1.00	0.00	4.00	94.00	03-Dec-2004	o/g	1.00	adeno	0.00	2.00
212	0.00	75	2	1.00	0.00	2.00	30.00	10-Sep-2002	Oesoph	0.00	adeno	0.00	2.00
213	1.00	58	0	0.00	0.00	1.00	0.00	21-Apr-2004	O	0.00	squam	1.00	2.00
214	1.00	80	2	1.00	0.00	2.00	30.00	11-Feb-2004	O	0.00	adeno	0.00	2.00
215	0.00	62	0	1.00	0.00	3.00	46.00	21-May-2003	O	0.00	adeno	0.00	2.00
216	0.00	68	1	0.00	0.00	2.00	30.00	03-Mar-2003	O	0.00	adeno	0.00	2.00
217	1.00	38	0	1.00	0.00	3.00	46.00	13-Aug-2003	0	0.00	adeno	0.00	2.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
1	31-Jul-2008	53.97	1.00	8.00	0.00	38.00	0.00	0.00	134.00	2.00	Chemo	2.00
2	31-Jul-2008	67.47	1.00	11.00	1.00	39.00	0.00	1.00	20.00	0.00	DXT	2.00
3	31-Jul-2008	71.00	1.00	16.00	1.00	40.00	0.00	1.00	66.00	1.00	rad chem/rad	1.00
4	31-Jul-2008	63.23	0.00	5.00	0.00	48.00	0.00	0.00	66.00	1.00	Chemo/DXT	2.00
5	31-Jul-2008	47.70	0.00	5.00	0.00	40.00	0.00	0.00	62.00	1.00	DXT	2.00
6	31-Jul-2008	45.80	1.00	62.00	1.00	38.00	0.00	1.00	86.00	1.00	DXT	2.00
7	31-Jul-2008	68.20	0.00	5.00	0.00	46.00	0.00	0.00	50.00	0.00	rad chem/rad	1.00
8	31-Jul-2008	72.07	1.00	8.00	0.00	44.00	0.00	0.00	40.00	0.00	None	3.00
9	31-Jul-2008	52.50	1.00	8.00	0.00	41.00	0.00	0.00	114.00	1.00	rad chem/rad	1.00
10	31-Jul-2008	61.20	0.00	5.00	0.00	42.00	0.00	0.00	0.00	0.00	Laser	3.00
11	31-Jul-2008	48.10	0.00	5.00	0.00	46.00	0.00	0.00	30.00	0.00	Surg	0.00
12	31-Jul-2008	49.73	0.00	5.00	0.00	45.00	0.00	0.00	0.00	0.00	Surg	0.00
13	31-Jul-2008	79.83	0.00	5.00	0.00	41.00	0.00	0.00	0.00	0.00	Surg	0.00
14	31-Jul-2008	62.57	0.00	5.00	0.00	41.00	0.00	0.00	0.00	0.00	Surg	0.00
15	31-Jul-2008	75.17	0.00	5.00	0.00	42.00	0.00	0.00	0.00	0.00	Surg	0.00
16	31-Jul-2008	73.27	0.00	5.00	0.00	47.00	0.00	0.00	66.00	1.00	Surg	0.00
17	31-Jul-2008	77.97	0.00	5.00	0.00	39.00	0.00	0.00	46.00	0.00	Surg	0.00
18	31-Jul-2008	65.43	0.00	5.00	0.00	45.00	0.00	0.00	50.00	0.00	Surg	0.00
19	31-Jul-2008	51.37	0.00	5.00	0.00	44.00	0.00	0.00	30.00	0.00	Surg	0.00
20	31-Jul-2008	76.57	0.00	5.00	0.00	43.00	0.00	0.00	0.00	0.00	Surg	0.00
21	31-Jul-2008	70.97	0.00	5.00	0.00	42.00	0.00	0.00	20.00	0.00	Surg	0.00
22	31-Jul-2008	76.33	0.00	5.00	0.00	43.00	0.00	0.00	30.00	0.00	Surg	0.00
23	31-Jul-2008	62.10	0.00	5.00	0.00	40.00	0.00	0.00	0.00	0.00	Surg	0.00
24	31-Jul-2008	74.30	1.00	7.00	0.00	44.00	0.00	0.00	70.00	1.00	Surg	0.00
25	31-Jul-2008	59.53	0.00	5.00	0.00	37.00	0.00	0.00	66.00	1.00	Surg	0.00
26	31-Jul-2008	62.07	0.00	5.00	0.00	48.00	0.00	0.00	30.00	0.00	Surg	0.00
27	31-Jul-2008	74.00	0.00	5.00	0.00	45.00	0.00	0.00	46.00	0.00	Surg	0.00
28	31-Jul-2008	46.47	0.00	5.00	0.00	41.00	0.00	0.00	0.00	0.00	Surg	0.00
29	31-Jul-2008	67.47	0.00	5.00	0.00	47.00	0.00	0.00	50.00	0.00	Surg	0.00
30	24-Aug-2005	9.23	1.00	19.00	1.00	45.00	0.00	1.00	70.00	1.00	rad chem/rad	1.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
31	05-May-2002	2.03	1.00	31.00	1.00	40.00	0.00	1.00	134.00	2.00	Chemo/DXT	2.00
32	08-Oct-2004	15.50	1.00	10.00	0.00	34.00	1.00	0.00	20.00	0.00	Laser	3.00
33	10-Apr-2005	12.07	0.00	5.00	0.00	43.00	0.00	0.00	46.00	0.00	DXT	2.00
34	08-Feb-2005	1.33	1.00	15.00	1.00	39.00	0.00	1.00	134.00	2.00	DXT	2.00
35	04-Nov-2002	2.80	1.00	8.00	0.00	40.00	0.00	0.00	114.00	1.00	Laser	3.00
36	24-May-2002	3.87	0.00	5.00	0.00	35.00	0.00	0.00	66.00	1.00	Stent	3.00
37	13-Feb-2008	40.37	1.00	29.00	1.00	31.00	1.00	2.00	52.00	0.00	Laser	3.00
38	21-Jul-2004	0.93	1.00	217.00	1.00	43.00	0.00	1.00	134.00	2.00	Chemo	2.00
39	17-Nov-2004	16.13	0.00	5.00	0.00	42.00	0.00	0.00	66.00	1.00	DXT	2.00
40	03-Sep-2004	17.50	1.00	122.00	1.00	35.00	0.00	1.00	86.00	1.00	Laser	3.00
41	10-Oct-2004	2.87	1.00	11.00	1.00	43.00	0.00	1.00	114.00	1.00	DXT	2.00
42	05-Jun-2003	8.00	1.00	89.00	1.00	38.00	0.00	1.00	134.00	2.00	Chemo	2.00
43	10-Sep-2004	2.20	1.00	64.00	1.00	41.00	0.00	1.00	134.00	2.00	Chemo	2.00
44	24-Oct-2002	4.97	0.00	5.00	0.00	33.00	1.00	0.00	66.00	1.00	Laser	3.00
45	26-Dec-2004	0.63	1.00	79.00	1.00	40.00	0.00	1.00	114.00	1.00	None	3.00
46	27-Dec-2003	10.10	1.00	19.00	1.00	34.00	1.00	2.00	134.00	2.00	Chemo/DXT	2.00
47	19-Jun-2005	6.70	0.00	5.00	0.00	39.00	0.00	0.00	66.00	1.00	Chemo/DXT	2.00
48	13-Dec-2003	3.43	1.00	22.00	1.00	34.00	1.00	2.00	114.00	1.00	Chemo	2.00
49	28-Nov-2002	6.60	0.00	1.00	0.00	44.00	0.00	0.00	20.00	0.00	rad chem/rad	1.00
50	12-Jan-2004	1.40	1.00	53.00	1.00	40.00	0.00	1.00	134.00	2.00	Chemo	2.00
51	12-Oct-2004	11.93	1.00	97.00	1.00	43.00	0.00	1.00	134.00	2.00	DXT	2.00
52	26-Aug-2005	8.27	1.00	8.00	0.00	50.00	0.00	0.00	114.00	1.00	Chemo	2.00
53	03-Feb-2005	9.13	0.00	5.00	0.00	32.00	1.00	0.00	114.00	1.00	Chemo/DXT	2.00
54	03-Jun-2003	4.17	1.00	15.00	1.00	35.00	0.00	1.00	40.00	0.00	Laser	3.00
55	04-May-2005	5.40	0.00	5.00	0.00	42.00	0.00	0.00	94.00	1.00	None	3.00
56	04-Feb-2005	6.40	0.00	5.00	0.00	40.00	0.00	0.00	114.00	1.00	Chemo & Laser	2.00
57	01-May-2005	13.17	0.00	5.00	0.00	39.00	0.00	0.00	182.00	2.00	Laser	3.00
58	25-May-2002	2.80	1.00	57.00	1.00	39.00	0.00	1.00	134.00	2.00	Chemo	2.00
59	21-Nov-2002	7.43	1.00	36.00	1.00	42.00	0.00	1.00	50.00	0.00	Chemo	2.00
60	07-Apr-2003	1.17	1.00	275.00	1.00	40.00	0.00	1.00	114.00	1.00	DXT	2.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
61	26-Jan-2005	11.03	1.00	10.00	0.00	44.00	0.00	0.00	86.00	1.00	rad chem/rad	1.00
62	24-Jul-2002	1.47	1.00	74.00	1.00	33.00	1.00	2.00	134.00	2.00	None	3.00
63	11-Aug-2005	17.47	1.00	10.00	0.00	45.00	0.00	0.00	114.00	1.00	Chemo/DXT	2.00
64	25-Aug-2003	4.13	1.00	50.00	1.00	31.00	1.00	2.00	66.00	1.00	Trachy & DXT	2.00
65	09-May-2005	12.33	0.00	5.00	0.00	39.00	0.00	0.00	82.00	1.00	Laser	3.00
66	18-Apr-2005	5.47	1.00	7.00	0.00	36.00	0.00	0.00	66.00	1.00	DXT & Laser	2.00
67	05-Oct-2004	1.40	1.00	38.00	1.00	37.00	0.00	1.00	134.00	2.00	None	3.00
68	04-Nov-2004	2.43	1.00	19.00	1.00	34.00	1.00	2.00	114.00	1.00	Laser	3.00
69	08-Dec-2004	10.97	0.00	6.00	0.00	47.00	0.00	0.00	66.00	1.00	Chemo/DXT	2.00
70	30-Sep-2005	14.70	0.00	6.00	0.00	38.00	0.00	0.00	114.00	1.00	Chemo	2.00
71	01-May-2004	4.33	1.00	64.00	1.00	38.00	0.00	1.00	50.00	0.00	Stent	3.00
72	23-Sep-2003	1.67	1.00	19.00	1.00	39.00	0.00	1.00	114.00	1.00	Chemo/DXT	2.00
73	10-Oct-2005	10.23	1.00	7.00	0.00	43.00	0.00	0.00	114.00	1.00	DXT	2.00
74	01-Sep-2004	15.13	1.00	42.00	1.00	37.00	0.00	1.00	134.00	2.00	Chemo & Laser	2.00
75	05-Nov-2004	2.10	1.00	36.00	1.00	33.00	1.00	2.00	134.00	2.00	Laser	3.00
76	01-Dec-2005	13.87	1.00	60.00	1.00	25.00	1.00	2.00	20.00	0.00	Laser	3.00
77	28-Aug-2003	7.80	1.00	190.00	1.00	38.00	0.00	1.00	134.00	2.00	Chemo	2.00
78	24-Apr-2004	1.27	1.00	30.00	1.00	22.00	1.00	2.00	134.00	2.00	None	3.00
79	16-Mar-2002	0.73	1.00	28.00	1.00	36.00	0.00	1.00	134.00	2.00	gastro-jej	3.00
80	04-Nov-2003	0.70	1.00	109.00	1.00	35.00	0.00	1.00	134.00	2.00	None	3.00
81	26-Jul-2005	31.27	1.00	19.00	1.00	41.00	0.00	1.00	86.00	1.00	rad chem/rad	1.00
82	27-May-2002	0.87	1.00	39.00	1.00	37.00	0.00	1.00	134.00	2.00	Laser	3.00
83	16-Oct-2004	16.50	1.00	24.00	1.00	40.00	0.00	1.00	98.00	1.00	Laser	3.00
84	23-Dec-2002	6.27	1.00	216.00	1.00	27.00	1.00	2.00	114.00	1.00	DXT & Laser	2.00
85	22-Mar-2005	5.10	0.00	5.00	0.00	44.00	0.00	0.00	66.00	1.00	Stent	3.00
86	03-Nov-2004	2.63	1.00	36.00	1.00	35.00	0.00	1.00	134.00	2.00	Chemo	2.00
87	10-Jun-2004	5.20	1.00	8.00	0.00	42.00	0.00	0.00	134.00	2.00	Laser	3.00
88	21-Aug-2004	0.73	1.00	68.00	1.00	34.00	1.00	2.00	114.00	1.00	Chemo	2.00
89	16-May-2002	1.70	1.00	23.00	1.00	39.00	0.00	1.00	70.00	1.00	Stent	3.00
90	13-Sep-2004	8.03	0.00	5.00	0.00	33.00	1.00	0.00	30.00	0.00	Stent	3.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
91	31-Dec-2003	3.27	0.00	5.00	0.00	38.00	0.00	0.00	94.00	1.00	Laser	3.00
92	24-Dec-2002	6.33	1.00	133.00	1.00	40.00	0.00	1.00	134.00	2.00	Laser	3.00
93	09-Jun-2003	8.87	1.00	25.00	1.00	44.00	0.00	1.00	86.00	1.00	Laser	3.00
94	12-Dec-2004	1.97	1.00	70.00	1.00	34.00	1.00	2.00	86.00	1.00	Stent	3.00
95	01-Feb-2005	10.50	0.00	5.00	0.00	43.00	0.00	0.00	114.00	1.00	Chemo	2.00
96	17-Jan-2004	5.00	1.00	48.00	1.00	45.00	0.00	1.00	66.00	1.00	rad chem/rad	1.00
97	18-Apr-2005	17.43	1.00	15.00	1.00	39.00	0.00	1.00	86.00	1.00	CH/DXT &Laser	2.00
98	02-Feb-2004	7.87	1.00	51.00	1.00	45.00	0.00	1.00	86.00	1.00	DXT & Laser	2.00
99	03-May-2004	2.20	1.00	96.00	1.00	30.00	1.00	2.00	114.00	1.00	Laser	3.00
100	24-Jan-2005	12.53	1.00	20.00	1.00	41.00	0.00	1.00	134.00	2.00	Chemo/DXT	2.00
101	20-Mar-2005	3.43	0.00	5.00	0.00	31.00	1.00	0.00	66.00	1.00	Stent	3.00
102	16-Jan-2004	14.33	1.00	18.00	1.00	43.00	0.00	1.00	40.00	0.00	Chemo	2.00
103	30-Jan-2006	14.87	0.00	5.00	0.00	41.00	0.00	0.00	46.00	0.00	Laser	3.00
104	16-Jan-2003	3.70	1.00	27.00	1.00	46.00	0.00	1.00	134.00	2.00	None	3.00
105	12-Mar-2003	6.80	0.00	5.00	0.00	43.00	0.00	0.00	94.00	1.00	DXT	2.00
106	19-Apr-2005	15.63	0.00	1.00	0.00	44.00	0.00	0.00	94.00	1.00	rad chem/rad	1.00
107	28-May-2002	3.73	1.00	12.00	1.00	41.00	0.00	1.00	134.00	2.00	Laser	3.00
108	13-May-2004	8.23	0.00	5.00	0.00	37.00	0.00	0.00	94.00	1.00	Chemo/DXT	2.00
109	03-Nov-2005	13.83	1.00	10.00	0.00	30.00	1.00	0.00	86.00	1.00	Chemo/DXT	2.00
110	09-Dec-2002	1.97	1.00	14.00	1.00	36.00	0.00	1.00	134.00	2.00	Stent	3.00
111	23-Mar-2006	16.07	1.00	16.00	1.00	44.00	0.00	1.00	134.00	2.00	DXT	2.00
112	08-Sep-2005	24.00	0.00	1.00	0.00	43.00	0.00	0.00	30.00	0.00	rad chem/rad	1.00
113	06-Nov-2005	11.17	0.00	5.00	0.00	38.00	0.00	0.00	94.00	1.00	Chemo	2.00
114	07-Jul-2004	6.60	1.00	36.00	1.00	43.00	0.00	1.00	86.00	1.00	Chemo/DXT	2.00
115	01-Apr-2002	1.13	1.00	44.00	1.00	37.00	0.00	1.00	134.00	2.00	Chemo	2.00
116	09-Sep-2004	1.37	1.00	173.00	1.00	35.00	0.00	1.00	114.00	1.00	None	3.00
117	11-Feb-2005	8.07	1.00	88.00	1.00	35.00	0.00	1.00	134.00	2.00	Chemo & Laser	2.00
118	21-Oct-2004	1.63	1.00	23.00	1.00	28.00	1.00	2.00	134.00	2.00	None	3.00
119	11-Mar-2004	20.50	0.00	5.00	0.00	35.00	0.00	0.00	0.00	0.00	DXT & Laser	2.00
120	10-Aug-2002	2.70	1.00	45.00	1.00	44.00	0.00	1.00	86.00	1.00	gastro-jej	3.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
121	17-Apr-2003	1.37	1.00	31.00	1.00	28.00	1.00	2.00	134.00	2.00	None	3.00
122	20-Oct-2005	23.90	0.00	5.00	0.00	42.00	0.00	0.00	32.00	0.00	Laser	3.00
123	11-Feb-2002	1.13	1.00	94.00	1.00	32.00	1.00	2.00	134.00	2.00	Chemo/DXT	2.00
124	29-May-2002	1.57	0.00	5.00	0.00	36.00	0.00	0.00	66.00	1.00	Stent	3.00
125	24-Sep-2004	11.47	1.00	16.00	1.00	42.00	0.00	1.00	86.00	1.00	DXT & Laser	2.00
126	25-Mar-2007	30.17	1.00	10.00	0.00	40.00	0.00	0.00	66.00	1.00	Chemo	2.00
127	14-Mar-2005	10.27	0.00	5.00	0.00	38.00	0.00	0.00	46.00	0.00	oesoph-jej	3.00
128	03-Jun-2004	2.30	1.00	89.00	1.00	36.00	0.00	1.00	134.00	2.00	None	3.00
129	30-May-2002	3.00	1.00	96.00	1.00	43.00	0.00	1.00	134.00	2.00	Chemo	2.00
130	04-Sep-2003	1.03	1.00	38.00	1.00	28.00	1.00	2.00	134.00	2.00	None	3.00
131	12-Jul-2005	41.20	0.00	5.00	0.00	43.00	0.00	0.00	50.00	0.00	Chemo	2.00
132	20-Jul-2005	41.47	0.00	5.00	0.00	43.00	0.00	0.00	50.00	0.00	rad chem/rad	1.00
133	21-Jan-2004	4.63	0.00	5.00	0.00	45.00	0.00	0.00	20.00	0.00	Chemo/DXT	2.00
134	23-Aug-2004	7.20	1.00	27.00	1.00	40.00	0.00	1.00	86.00	1.00	Chemo	2.00
135	29-Apr-2003	14.40	0.00	5.00	0.00	42.00	0.00	0.00	66.00	1.00	Chemo	2.00
136	03-Sep-2004	6.57	0.00	5.00	0.00	36.00	0.00	0.00	66.00	1.00	Chemo/DXT	2.00
137	10-Oct-2003	5.67	1.00	64.00	1.00	44.00	0.00	1.00	66.00	1.00	DXT	2.00
138	27-May-2004	5.83	1.00	253.00	1.00	29.00	1.00	2.00	134.00	2.00	None	3.00
139	08-Mar-2003	8.43	0.00	5.00	0.00	42.00	0.00	0.00	114.00	1.00	Chemo/DXT	2.00
140	04-Aug-2003	2.20	1.00	65.00	1.00	35.00	0.00	1.00	134.00	2.00	Chemo & Laser	2.00
141	27-Feb-2005	19.27	1.00	9.00	0.00	46.00	0.00	0.00	134.00	2.00	Chemo	2.00
142	30-Jul-2005	16.73	0.00	5.00	0.00	39.00	0.00	0.00	114.00	1.00	Chemo/DXT	2.00
143	23-Jun-2003	10.63	1.00	31.00	1.00	47.00	0.00	1.00	134.00	2.00	rad chem/rad	1.00
144	10-Apr-2003	4.50	1.00	50.00	1.00	33.00	1.00	2.00	134.00	2.00	DXT	2.00
145	17-Jun-2003	1.37	1.00	91.00	1.00	35.00	0.00	1.00	134.00	2.00	Laser	3.00
146	04-Oct-2002	1.40	1.00	171.00	1.00	42.00	0.00	1.00	114.00	1.00	None	3.00
147	15-Oct-2005	11.93	1.00	58.00	1.00	27.00	1.00	2.00	52.00	0.00	Laser	3.00
148	30-May-2003	13.63	0.00	5.00	0.00	40.00	0.00	0.00	114.00	1.00	Chemo	2.00
149	21-Sep-2002	8.27	0.00	5.00	0.00	42.00	0.00	0.00	114.00	1.00	gastro-jej	3.00
150	06-Apr-2008	46.13	0.00	5.00	0.00	43.00	0.00	0.00	30.00	0.00	DXT	2.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
151	23-May-2003	0.47	1.00	29.00	1.00	28.00	1.00	2.00	114.00	1.00	None	3.00
152	03-Feb-2003	7.43	1.00	40.00	1.00	38.00	0.00	1.00	134.00	2.00	DXT	2.00
153	16-Aug-2003	9.97	1.00	43.00	1.00	39.00	0.00	1.00	114.00	1.00	Laser	3.00
154	10-Sep-2005	11.93	0.00	5.00	0.00	44.00	0.00	0.00	114.00	1.00	Chemo	2.00
155	17-Apr-2003	2.53	1.00	17.00	1.00	36.00	0.00	1.00	86.00	1.00	DXT & Laser	2.00
156	23-Sep-2004	21.77	0.00	5.00	0.00	43.00	0.00	0.00	94.00	1.00	rad chem/rad	1.00
157	23-Aug-2005	28.00	0.00	5.00	0.00	38.00	0.00	0.00	46.00	0.00	rad chem/rad	1.00
158	27-Jul-2005	7.97	1.00	11.00	1.00	40.00	0.00	1.00	86.00	1.00	Chemo/DXT	2.00
159	22-Dec-2004	4.53	1.00	12.00	1.00	42.00	0.00	1.00	118.00	1.00	DXT & Laser	2.00
160	01-Oct-2004	12.83	1.00	12.00	1.00	37.00	0.00	1.00	118.00	1.00	None	3.00
161	01-Feb-2004	2.50	1.00	171.00	1.00	36.00	0.00	1.00	114.00	1.00	None	3.00
162	07-Oct-2004	9.77	1.00	15.00	1.00	40.00	0.00	1.00	86.00	1.00	Chemo & Laser	2.00
163	08-Mar-2005	11.80	1.00	17.00	1.00	31.00	1.00	2.00	118.00	1.00	Laser	3.00
164	21-Sep-2003	3.13	1.00	26.00	1.00	43.00	0.00	1.00	134.00	2.00	Chemo	2.00
165	02-Sep-2003	8.87	1.00	12.00	1.00	43.00	0.00	1.00	134.00	2.00	DXT	2.00
166	01-Aug-2004	1.93	1.00	44.00	1.00	40.00	0.00	1.00	166.00	2.00	Stent	3.00
167	18-Jan-2005	4.10	1.00	56.00	1.00	46.00	0.00	1.00	114.00	1.00	Chemo	2.00
168	14-May-2006	25.87	0.00	5.00	0.00	42.00	0.00	0.00	30.00	0.00	DXT	2.00
169	18-Nov-2002	1.33	1.00	66.00	1.00	38.00	0.00	1.00	86.00	1.00	Stent	3.00
170	19-Apr-2005	8.80	1.00	11.00	1.00	48.00	0.00	1.00	114.00	1.00	Chemo	2.00
171	08-Oct-2002	6.97	0.00	5.00	0.00	43.00	0.00	0.00	66.00	1.00	Chemo/DXT	2.00
172	03-Sep-2003	10.30	1.00	7.00	0.00	43.00	0.00	0.00	40.00	0.00	Laser	3.00
173	12-Feb-2003	8.23	1.00	43.00	1.00	28.00	1.00	2.00	134.00	2.00	Chemo/DXT	2.00
174	27-Aug-2002	1.77	1.00	120.00	1.00	32.00	1.00	2.00	134.00	2.00	Laser	3.00
175	03-May-2002	0.80	1.00	37.00	1.00	40.00	0.00	1.00	114.00	1.00	None	3.00
176	26-Mar-2004	0.53	1.00	46.00	1.00	37.00	0.00	1.00	134.00	2.00	None	3.00
177	01-Oct-2004	10.53	1.00	38.00	1.00	34.00	1.00	2.00	86.00	1.00	Chemo/DXT	2.00
178	30-Apr-2004	2.03	1.00	39.00	1.00	34.00	1.00	2.00	86.00	1.00	Laser	3.00
179	03-Dec-2005	13.70	1.00	56.00	1.00	36.00	0.00	1.00	66.00	1.00	CH/DXT & Laser	2.00
180	26-Feb-2005	5.93	1.00	32.00	1.00	32.00	1.00	2.00	134.00	2.00	Chemo	2.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
181	24-Aug-2004	5.13	1.00	28.00	1.00	37.00	0.00	1.00	134.00	2.00	Chemo & Laser	2.00
182	10-Jul-2004	0.50	1.00	20.00	1.00	24.00	1.00	2.00	102.00	1.00	Laser	3.00
183	23-Jul-2004	19.47	1.00	72.00	1.00	39.00	0.00	1.00	70.00	1.00	Chemo/DXT	2.00
184	09-Jan-2007	32.37	0.00	5.00	0.00	45.00	0.00	0.00	20.00	0.00	Laser	3.00
185	16-Aug-2004	20.97	0.00	5.00	0.00	47.00	0.00	0.00	0.00	0.00	Laser	3.00
186	14-Nov-2004	1.70	1.00	162.00	1.00	26.00	1.00	2.00	146.00	2.00	None	3.00
187	30-Apr-2005	15.50	1.00	28.00	1.00	47.00	0.00	1.00	134.00	2.00	Chemo	2.00
188	23-May-2003	0.77	0.00	5.00	0.00	43.00	0.00	0.00	94.00	1.00	gastro-jej	3.00
189	23-Oct-2003	9.10	0.00	5.00	0.00	48.00	0.00	0.00	94.00	1.00	Chemo	2.00
190	08-Jan-2003	0.73	0.00	5.00	0.00	45.00	0.00	0.00	66.00	1.00	Stent	3.00
191	13-Jan-2004	2.97	1.00	8.00	0.00	40.00	0.00	0.00	134.00	2.00	None	3.00
192	15-May-2002	0.73	1.00	153.00	1.00	22.00	1.00	2.00	70.00	1.00	Laser	3.00
193	30-Nov-2005	27.10	1.00	9.00	0.00	46.00	0.00	0.00	20.00	0.00	Laser	3.00
194	26-Oct-2004	19.37	1.00	19.00	1.00	44.00	0.00	1.00	50.00	0.00	Surg	0.00
195	25-Nov-2004	6.63	0.00	5.00	0.00	42.00	0.00	0.00	50.00	0.00	Surg	0.00
196	13-Jul-2005	32.83	0.00	5.00	0.00	39.00	0.00	0.00	66.00	1.00	Surg	0.00
197	25-Mar-2004	7.27	1.00	9.00	0.00	37.00	0.00	0.00	86.00	1.00	Surg	0.00
198	11-Jun-2008	48.50	1.00	8.00	0.00	36.00	0.00	0.00	70.00	1.00	Surg	0.00
199	16-Oct-2007	42.20	0.00	5.00	0.00	39.00	0.00	0.00	50.00	0.00	Surg	0.00
200	18-Jun-2003	9.53	1.00	19.00	1.00	35.00	0.00	1.00	20.00	0.00	Surg	0.00
201	10-Aug-2004	6.27	0.00	5.00	0.00	41.00	0.00	0.00	0.00	0.00	Surg	0.00
202	30-Jan-2004	17.13	0.00	5.00	0.00	41.00	0.00	0.00	50.00	0.00	Surg	0.00
203	22-Mar-2003	12.23	1.00	9.00	0.00	45.00	0.00	0.00	86.00	1.00	Surg	0.00
204	18-Apr-2005	20.00	0.00	5.00	0.00	43.00	0.00	0.00	66.00	1.00	Surg	0.00
205	13-Nov-2003	17.60	0.00	5.00	0.00	41.00	0.00	0.00	46.00	0.00	Surg	0.00
206	10-Dec-2005	11.77	0.00	5.00	0.00	49.00	0.00	0.00	66.00	1.00	Surg	0.00
207	15-Dec-2005	27.57	0.00	5.00	0.00	39.00	0.00	0.00	46.00	0.00	Surg	0.00
208	25-May-2004	11.87	1.00	42.00	1.00	38.00	0.00	1.00	134.00	2.00	Chemo	2.00
209	07-Jul-2004	12.13	1.00	157.00	1.00	32.00	1.00	2.00	146.00	2.00	chemo/Laser	2.00
210	29-Mar-2003	5.73	0.00	5.00	0.00	36.00	0.00	0.00	66.00	1.00	Chemo	2.00

Patient	doffu	survmths	crpgre5	crpfinal	cfinalcd	albfinal	albfincd	mgps	ers	erscd	treatment	treatcd
211	21-Dec-2004	0.60	1.00	171.00	1.00	28.00	1.00	2.00	134.00	2.00	CH/DXT & Laser	2.00
212	10-May-2003	8.07	0.00	5.00	0.00	45.00	0.00	0.00	50.00	0.00	Laser	3.00
213	13-Sep-2004	4.83	0.00	5.00	0.00	42.00	0.00	0.00	0.00	0.00	Surg	0.00
214	30-Jul-2006	30.00	0.00	5.00	0.00	42.00	0.00	0.00	50.00	0.00	Surg	0.00
215	26-Nov-2007	55.00	0.00	5.00	0.00	40.00	0.00	0.00	66.00	1.00	Surg	0.00
216	26-Mar-2006	37.30	0.00	5.00	0.00	43.00	0.00	0.00	30.00	0.00	Surg	0.00
217	19-Jul-2005	23.53	0.00	5.00	0.00	38.00	0.00	0.00	66.00	1.00	Surg	0.00