ON

# THERAPEUTIC CONSIDERATIONS IN PEPTIC ULCER

THESIS

PRESENTED TO THE UNIVERSITY OF GLASGOW

BY

ANNIE ROBERTSON CHALMERS M.B., Ch.B.

December 1936.



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

INDEX.

# INTRODUCTION

INTRODUCTION.

The recognition of the condition known as peptic ulcer is many centuries old. As far back as the XVIth century, Celsus described the condition, and prescribed what he considered to be the appropriate treatment, in De re Medica, lib.IV, cap.5. Cruveilhier first clearly differentiated peptic ulcer from carcinoma in his "Atlas d'Anatomie Pathologique", liv.X pp 5 and 6. Brinton[1] in 1864 showed that evidence of peptic ulcer was to be found in 5% of all autopsies. Within recent times, however, there has been a tremendous accumulation of literature upon the theories of causation and upon the treatment of the condition; but still today the problem presented by peptic ulcer is one of enormous magnitude...it is in fact, not only a medical problem, but one of considerable social and economic importance. Hurst[2] has recently pointed out that, in a series of 4000 consecutive autopsies, evidence of peptic ulcer was present in no less than 9.5%. He concludes that, of the entire population of this country, about 10% of individuals suffer from peptic ulcer at some time throughout their lives.

This type of malady appears to be occurring with increasing frequency, or conversely, to be diagnosed with increasing certainty. A brief statistical survey will be included later to justify this statement;

Davis [3] in his Bradshaw lecture for 1935, has pointed out that the Registrar General's returns for the past decade, show steadily increasing death rates from gastric and duodenal ulcer.

In-patient treatment of all patients suffering from peptic ulcer is obviously impracticable, and indeed, unnecessary. In most out-patient departments of general hospitals, many such patients are treated successfully as ambulant cases. More recently there has been developed at least one clinic devoted solely to the treatment of peptic ulcer and allied conditions.

The "Peptic Ulcer Clinic" at King's College Hospital was originally inaugurated with a view to relieving the ever increasing demand for hospital bed-accomodation, and the segregation of this type of patient has been found to facilitate the taking of more accurate case-histories and to maintain an excellent control over the various methods of treatment adopted. There have been some 378 patients referred to this clinic, with total attendances of 1512. The number of new cases has approximated five per week. I have conducted the following investigations while working as an assistant at this clinic. The main object of my investigations has been to determine the relative merits of various methods of medical treatment and

to study the response of such known quantative factors as gastric acidity to various therapeutic measures.

At the outset it will be as well to state that no attempt has been made to give a comprehensive treatise on peptic ulcer...a subject which would fill a volume..., pathology has not been included at all; rather has an attempt been made to focus attention on some of the more topical problems and the solution thereof, since I share the belief that peptic ulcer is a problem the solution of which does not end with a precise knowledge of the etiology, pathology, and therapy of the individual case, even were such an ideal attainable, as unfortunately, it is not today.

# THEORIES OF CAUSATION.

THEORIES OF CAUSATION.

There exists, even at present, no definite consensus of opinion as to the precise etiology of peptic ulcer, although numerous factors are recognised, among which are many obvious clinical entities such as:-

1 Sepsis, oral and more especially, dental.
2 Factors concerned with the patient's occupation and mode of life.
3 Factors associated with the patient's psychological and physical constitution.....the patient's "diathesis."

Apart from these fairly constant findings, many extraneous factors have to be considered such as, debility due to concurrent disease, and infection, whether focal or general. These latter conditions would appear to have received undue prominence and consideration from certain workers, and so it might be appropriate now to discuss in some detail, the various etiological theories, and their individual significance.

I. Sepsis; or Infective Theory.

The majority of workers are agreed that sepsis, more particularly dental sepsis, is a very constant

finding in peptic ulcer, although there are some disclaimers, including Davis [3] who believes that sepsis of a focal type has no relation to the initiation of a peptic ulcer. His belief is founded on the fact that, even where no attention is paid to oral sepsis, a high percentage of recoveries is still possible. On the other hand, the work of such investigators as Rosenow [4] and Nakamura [5] showed that experimental ulcers could be produced in dogs by inoculation with strains of streptococci isolated from the mouths of patients suffering from peptic ulcer. Rosenow [4] inoculated dogs (a) intravenously, (b) subcutaneously, (c) intraperitoneally, and (d) by ingestion, with strains of streptococci isolated from the tonsils of individuals suffering from proven gastric ulcers, and in 80% of his animals, experimental gastric ulcers developed.

There can be little doubt that chronic dental sepsis certainly does predispose to chronic indigestion... using the word in its widest sense, and that symptoms of chronic indigestion are almost invariably the precursors of peptic ulceration, and so it might reasonably be supposed that infection may play a part primarily by producing a state of diminished resistance in certain parts of the gastric mucosa.

Whether oral sepsis is responsible for an increased output of hydrochloric acid, as a defence mechanism against generalised infection, remains, at the moment, a matter for conjecture. At all events increased production of hydrochloric acid is considered by most workers to predispose to gastric ulceration, and so this relationship might account for the very frequent finding of peptic ulceration in association with oral sepsis. In such cases, early recognition of symptoms might justify the elimination, as far as possible, of the septic focus, with a view to decreasing the output of hydrochloric acid. Conversely, in cases of oral sepsis of long standing, radical dental treatment would be less likely to be attended with beneficial results.

II. Toxic Theory.

Other workers, such as Bolton,[6] working with gasrotoxic sera, have produced experimental ulcers, while Loeb and Rehfuss,[7] using various chemical poisons, such as pilocarpine and chloroform, have made similar observations. In this connection, the part played by specific toxins, as in food poisoning, in the production of acute gastritis, is well known. It has recently been shown that toxins of staphylococci can produce similar results when ingested. It seems probable that

the production of gastritis in this fashion may occasionally pave the way for the formation of ulcers. Since the introduction of gastroscopy as a routine measure in examination of the stomach, it has become recognised that the inflamation of the mucosa, occasioned by eating of bad food or alcohol, may persist long after symptoms have abated. It is possible that, in time, we will learn to recognise a pre-ulcer state of the mucosa in such cases, even before symptoms have manifested themselves.

III. Diet and Habits.

There can be no doubt at all that diet plays a large part, if not in the actual production of peptic ulcer, at least in preparing the mucosa for its production, and for maintaining the chronicity of the ulcer once produced. The vast majority of patients suffering from peptic ulcer give a history of irregular, inadequate ill-chosen meals or of long periods of lack of food. For this reason it is very difficult to discuss diet as a solitary factor, because the very cause of its unsuitability is so often associated with the patient's occupation. There is a considerable amount of evidence to suggest that the consistent consumption of very hot food predisposes to ulcer formation. Decker[8] produced experimental ulcers

by feeding dogs with gruel heated to a temperature of 50 deg. Centigrade, while Heiser [9] found that practically all his patients habitually partook of hot food. The consequent congestion of the mucous membrane and increased production of peristalsis was thought to be the precursor of the actual ulcer.

It would appear that certain foodstuffs predispose to ulcer formation, notably those meats included in the first class proteins, and condiments. Meat and milk produce higher gastric acidities than other foodstuffs....a fact which helps to explain the freedom from peptic ulcer enjoyed by those natives of India who are vegetarian. Residents of the Bavarian Alps and of the Rhone Valley, who are also vegetarians, enjoy a similar freedom. [10] On the other hand, Abyssinians who eat large quantities of pepper, show a very high incidence of peptic ulcer. [11] Improperly prepared food particularly of a greasy type, predisposes by retarding evacuation of the stomach contents, because fat diminishes gastric secretion.

Tobacco and alcohol both predispose to ulcer formation, although they cannot be demonstrated as actual causes of ulcer. It will be shown later however, that those occupations, which impose strain on the patients, and at the same time permit of

regular smoking, combined with irregular meals, especially if the occupation be of a sedentary nature, are the worst offenders in the production of peptic ulceration. Perhaps the best example of an occupation combining these factors is that of Transport workers, among whom the incidence of peptic ulcer is extremely high. Exactly why tobacco predisposes to ulcer formation is not known. It is probably due in part to direct irritation of the mucosa by swallowed fumes, and in part to its effect upon the central nervous system. It has also been suggested that the inhalation of smoke may cause increased peribronchial constriction thereby increasing the plasma carbon dioxide, thus indirectly causing an increase of gastric acidity.

IV. Neurogenic Theory.

The close correlation between those of a nervous diathesis and peptic ulcer has long been recognised. There must be very few individuals, who at some time, during a period of emotional stress, have not experienced a peculiar sensation within the epigastric region. From that very momentary state, it is not difficult to imagine that a person who sustains a state of anxiety over a more prolonged period, may suffer some permanent gastric damage. However, quite apart from such realms of speculation there is a very

great deal of evidence in support of the neurogenic factor in peptic ulceration. Almost invariably the patient is of the "dyspeptic" type, angular, underweight, and under tension. I personally have noticed at King's College Hospital, that the average patient attending the Peptic Ulcer Clinic is consistently fidgety and nervous, although invariably seen by the same doctor, with whom he is "at home." Many workers have been able to show that adverse nervous strain often long preceded symptoms relating to ulcer. Davis [3] recently claimed that, in 20 out of 45 cases of remission of healed ulcers, a definite emotional upset was responsible for the recurrence.

There has also been a considerable amount of experimental work which confirms these clinical findings. Rokitansky [12] in 1846 was the first to point out that gastric changes could be produced by nervous lesions.

In 1876, Brown-Séquard [13] demonstrated that injury to the base of the brain produced gastric erosions. He also described cases of subtentorial haemorrhage and other brain injuries at birth, which were associated with gastric haemorrhage.

Cushing[14] claims that stimulation of the brain stem, in any part from the centre in the third ventricle, along the vagal tract to the vagal nucleus will produce motor and secretory changes in the stomach. He also recalls that the vagus centre is in the vicinity of "Cannon's seat of Emotion."

Beattie[15] showed that electrical stimulation of nerve centres in the vicinity of the third ventricle increased gastric peristalsis and produced hyperchlorhdria.

Cushing [14]also relates electrical stimulation of the hypothalamus to hypersecretion; it would therefore seem reasonable to assume that emotional stimulation of the hypothalamus should be equally capable of producing hypersecretion, although such an assumption is purely hypothetical at the moment. Cushing quotes three cases where patients recovering from brain operations, died of perforation of the stomach

The close relationship between nervous strain and emotional stimulation, might well contribute to the increase of peptic ulcer which is so notable today, and similarly towards the increased incidence observed in city dwellers, as compared with country dwellers, on the assumption that the former are more subjected

to nervous strain than the latter.

V. Hyperacidity.

Matthews and Dragstedt[16] have pointed out that the presence of gastric juice is necessary for the production of peptic ulcer, a condition which is almost unknown in pernicious anaemia, which is associated with achlorhydria. Most workers are agreed that, in cases of peptic ulcer, the average gastric acidity is higher than in the normal population. The significance of gastric acidity in this connection was recently pointed out in an interesting communication by Apperley, [17] He showed that gastric acidity was intimately related to the carbon dioxide content of the blood plasma. He demonstrated that, where the carbon dioxide content fell, hypochlorhydria co-existed. It therefore became obvious that conditions which tended to lower the blood-carbon dioxide, such as pulmonary hyperventilation at high altitudes, and in the tropics, would also tend to lower the gastric acidity. This latter cause, he attempted to show, was the reason for the comparative freedom from peptic ulcer enjoyed by the Australian race, although Anglo Saxon in origin and dietetically in habit much the same as our own. It is also possible that loss of chloride by sweat, in hot climates contributes to the immunity enjoyed

therein. In the same communication Apperley [17] states that (i) variations in the average gastric acidity, for different age and sex groups, are at least partially dependent upon haemoglobin differences on these groups, or whatever causes such differences: (2) That, assuming that gastric acidity disappears when the haemoglobin content of the blood falls below two thirds of its normal value, then anaemia can bring about achlorhydria. These changes in acidity and motility, may explain the well recognised clinical fact that symptoms of peptic ulcer often improve after a severe haemorrhage. In the same way, significance may be attached to the fact that jejunal ulcer is a common sequel to gastroenterostomy performed for the relief of duodenal ulcer, whereas it never follows the same operation when performed in cases of gastric carcinoma.

There has been much production of experimental ulcers in animals by diverting the acid chyme from the stomach, directly into the intestine, without first neutralising it by exposure to the alkaline contents of the duodenum. Mann and Williamson [18] reported the production of experimental ulcers in dogs, which are not normally susceptible to this affection, by diverting the natural secretions of the duodenum. They were able to perform duodenectomy, and effect trans-

plantation of the pancreatic and biliary ducts into the terminal ileum, but they found the more practical technique to be duodenal-ileal anastomosis. These procedures almost invariably resulted in peptic ulcer in the neighbourhood of the pylorus.

Matthews and Dragstedt[16] have produced ulceration of the jejunum by suturing a gastric pouch to the jejunum or ileum.

The question of phasic variation is one that will be discussed more fully later. It raises at this point, the question of a possible fluctuation in gastric acidity as the reason for the spontaneous remissions, with long periods of complete relief from all symptoms, in patients who have had either inadequate, or no treatment

VI. Amino-acid Deficiency.

That amino-acid deficiency might possibly be the cause of the formation of peptic ulcer was first postulated by Weiss and Aron[19] after certain experiments. They found that the absence of duodenal secretion prevented digestion, and therefore, assimilation of albumens. In animals which have had the duodenal secretion diverted, in one of the ways already des-

cribed, they found the development of cachexia, atrophy of mucous membranes, and a "peptic" type of ulceration. They therefore, in these cases, tried the effect of substitution of various amino-acids, and finally a selection of Histidine was made. It was then shown that the injection of histidine would postpone indefinitely, the appearance of ulcers, although it had little or no effect on the other symptoms. Renewed flow of normal duodenal contents led to a healing of the lesions. At the present time, these experiments constitute the entire rationale of histidine therapy, although there has been recently advanced the conception that this substance may be necessary to cell integrity, or that its injection may stimulate the outflow of protective substances within the stomach. (see page 72.)

Such then, are some of the many theories of causation of peptic ulcer. Many others have been suggested from time to time. These include:- Allergy, parathyroid deficiency, vitamin deficiency, trauma, ischaemia, heredity...(Draper and Fourane, and Hurst found a familial element in their series)... violent muscular effort, fatigue from over work, and

specific bacterial infection. At the moment, however, I am not convinced that there is sufficient evidence to incorporate any of these theories with those previously discussed. The impression gathered by familiarity with large numbers of this type of patient is that no single etiological factor can be held responsible for all cases. It seems to me possible, that, just as superficial ulceration may arise from a variety of causes including circulatory changes, syphilis, and trauma, so also may peptic ulcer arise from a variety of causes, either singly or in combination. I do not consider, for example, that hyperacidity is ever the sole cause of peptic ulcer. Wherever possible, nevertheless, in the clinical examples which follow, the probable etiological factors have been considered in each case. I believe that, in peptic ulcer, it is vitally important to treat the patient as a person, and to readjust both his internal and external environment, as well as to rid him of one or more of his symptoms.

# EPIDEMIOLOGY AND VITAL STATISTICS.

EPIDEMIOLOGY AND VITAL STATISTICS.

It is now generally recognised that peptic ulcer constitutes an economic and social problem of some magnitude. It has been estimated that about one third of all available hospital beds would be required to accomodate all sufferers from this complaint in this country alone.[20] Before considering the desirability for an organised scheme for the national treatment of this disorder, it will be as well to consider the magnitude of the problem in greater detail.

As may well be imagined, precise statistical data of the incidence of peptic ulcer are difficult to obtain, and furthermore, although certain figures relating to the mortality and morbidity are obtainable at the moment, the amount of chronic ill health occasioned by peptic ulcer does not lend itself readily to an analytical survey and so must remain a matter for conjecture. It is however known that 50% of all peptic ulcers in males occur between the ages of 30 and 50, namely during life's most active and productive years. In females, on the other hand, 75% of all peptic ulcers occur before the age of 30, the vast majority of these occurring between 20 and 30, although all extremes of age-incidence have been reported.

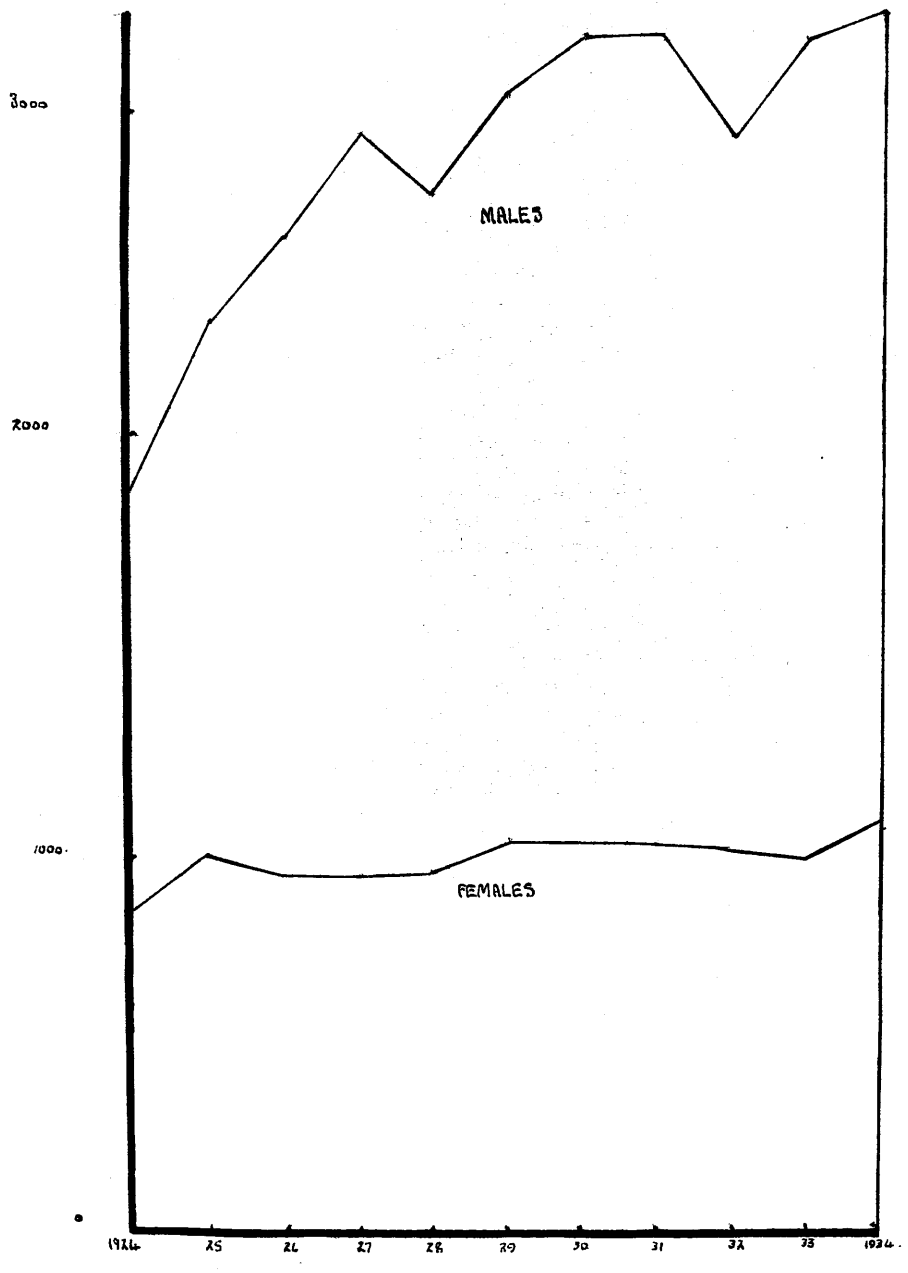
In 1935 an attempt was made in U.S.A., by the leading Life Assurance Companies [21] to compute the incidence of peptic ulcer, but the material from which the figures were obtained, was drawn from a selected population, and does not, to my mind, apply universally.

Brown [22] has shown that the incidence of peptic ulcer increases steadily during periods of unemployment and national trade depression, the brunt of the increase falling among single adult males.

From figures obtainable from the Registrar General [23] on the one hand, and from the Scottish Department of Health [24] on the other, I have attempted to review briefly (a) the mortality, (b) the incidence, and (c) the lost-time rates due to peptic ulcer in this country within the past few years.

I. MORTALITY RATE.

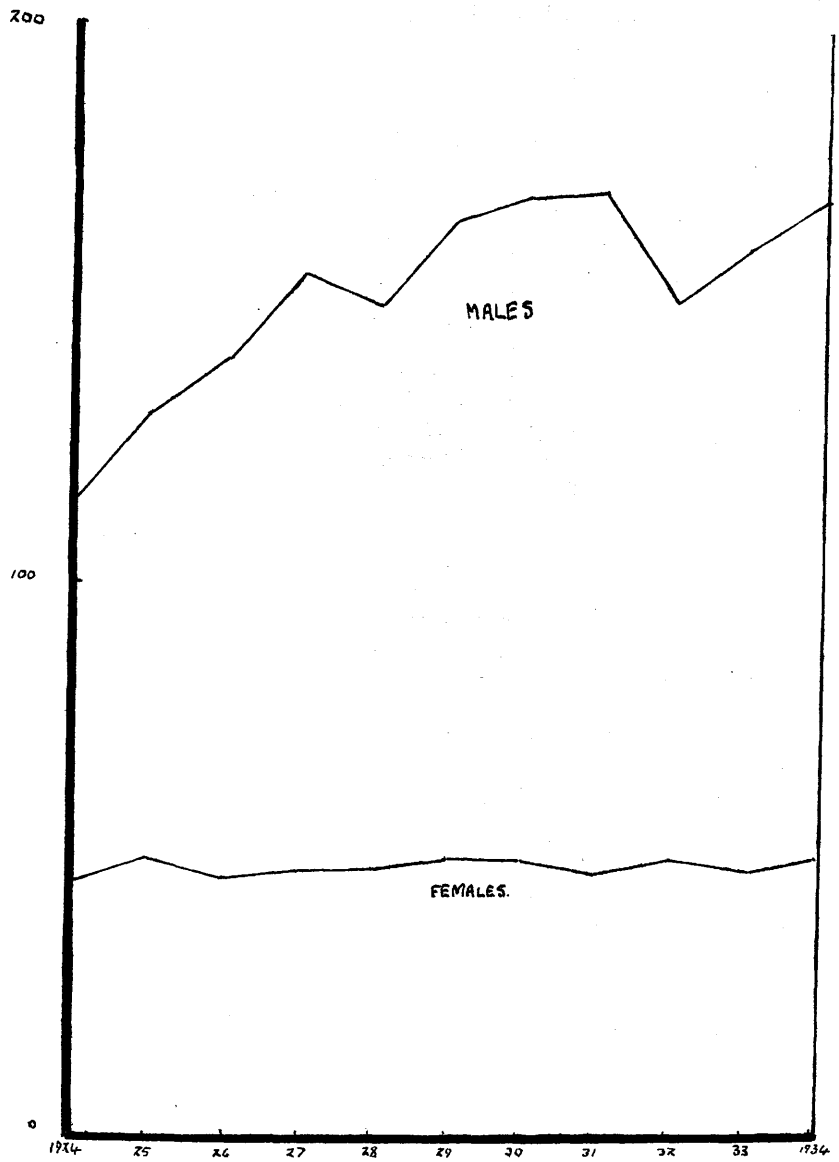
Graph I shows the general upward trend of increasing mortality due to Gastric and Duodenal Ulcer in England and Wales during the decade 1924 to 1934.




GRAPH I

MORTALITY RATE. 1924-1934.

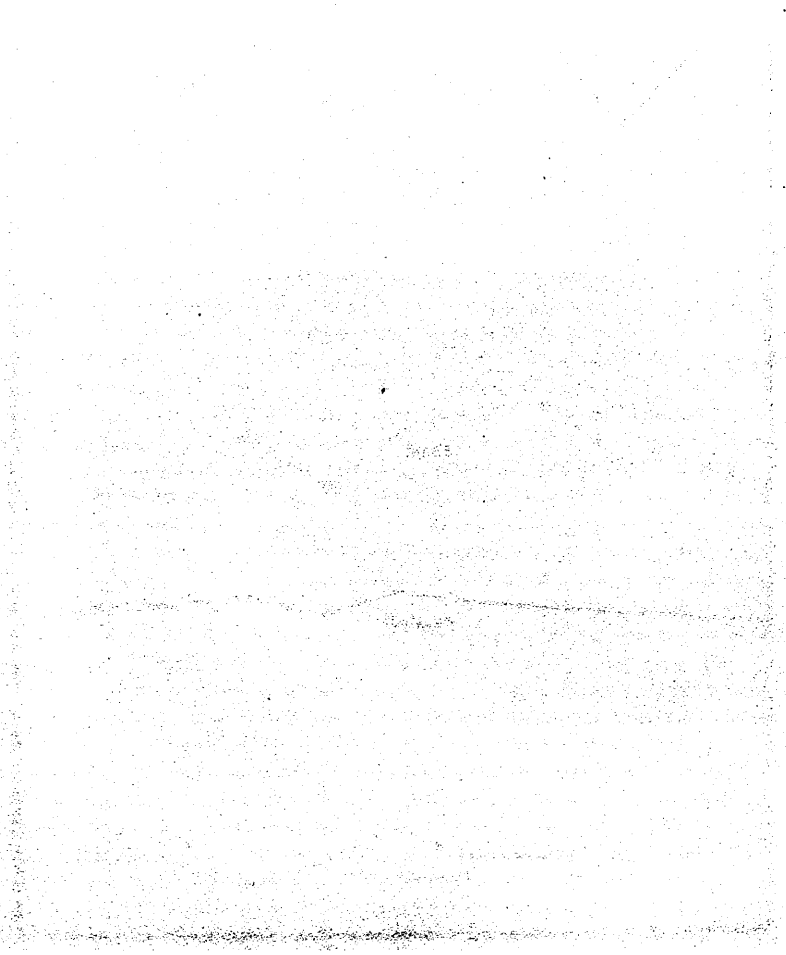
It will be seen that the increase, although perhaps not great, has been steady. In order to eliminate the spurious increase due to the natural increase in the population, I have made the following curve, (Graph II) of the Crude death rate from this cause. Its resemblance to Graph I is striking.

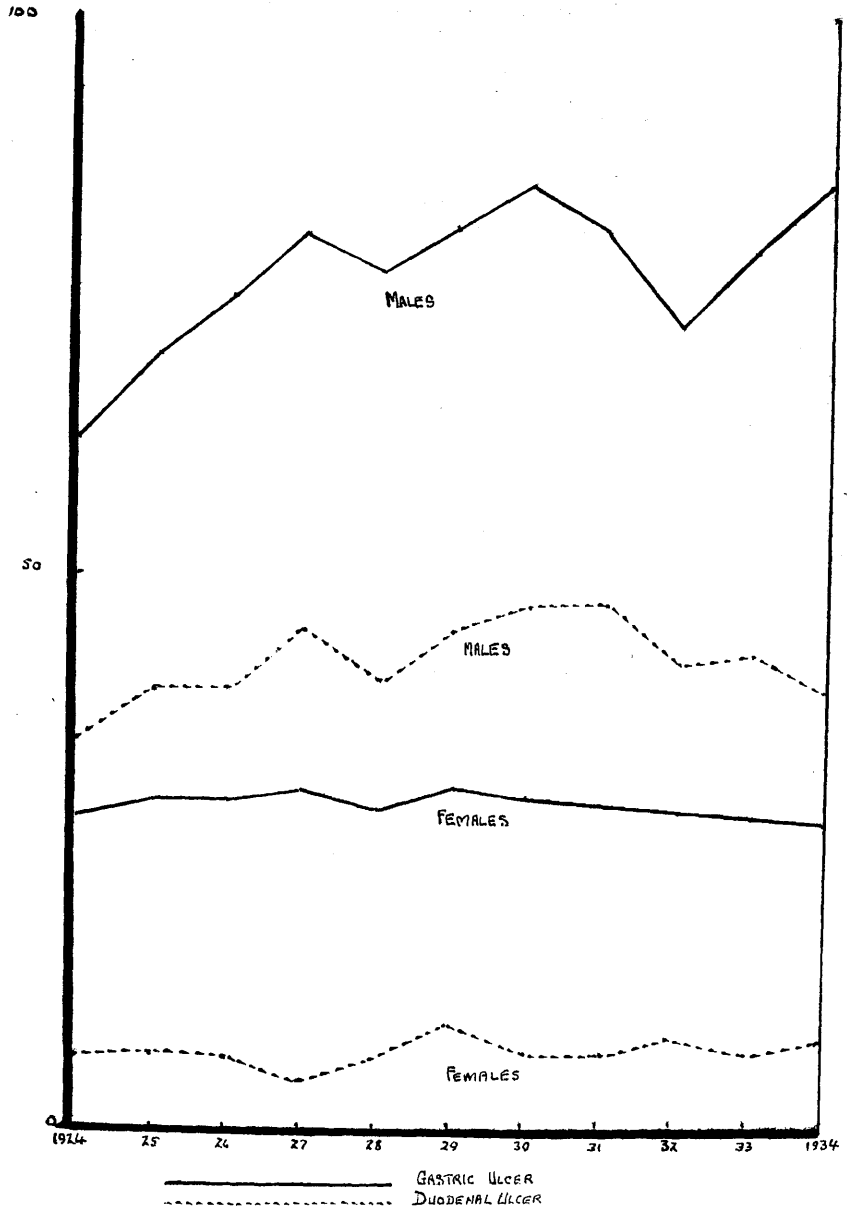



GRAPH II

CRUDE DEATH RATE 1924 - 1934.

The falling birth-rate during recent years, has left an unduly high proportion of adults in the population of an age at which peptic ulcer predominates, and it has therefore been necessary to plot the Standardised death-rate from this cause. (Graph 3).



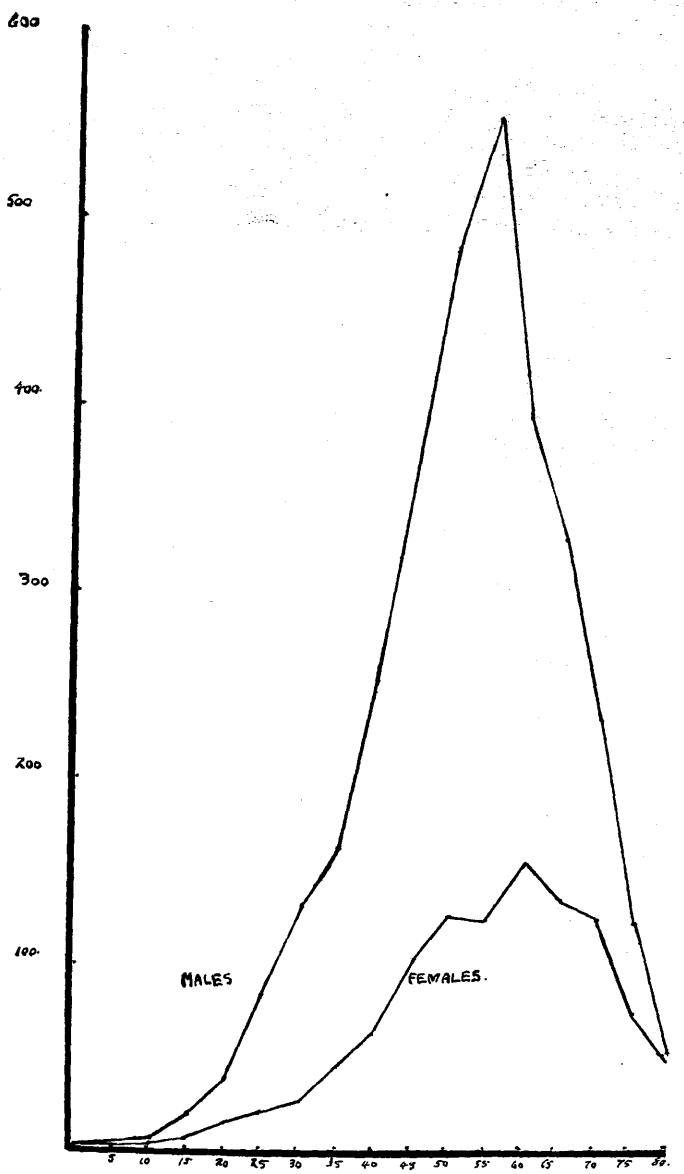



GRAPH III

STANDARDISED DEATH RATE 1924-1934.

It will be seen that the increase is still present and is to be found amongst the male section of the population.

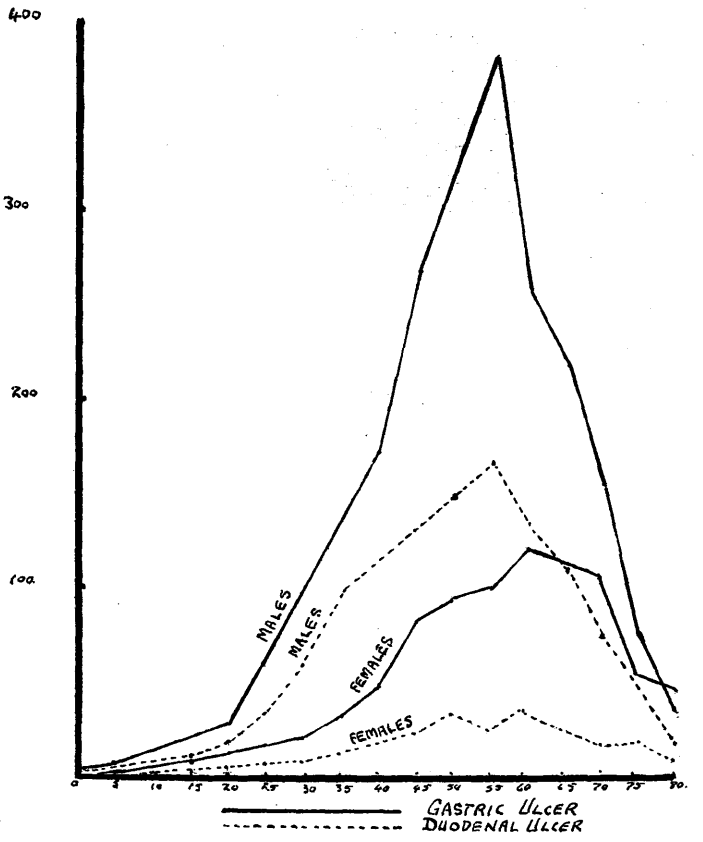
The following graph (Graph IV) shows the ages at which men and women die as the result of uncomplicated ulceration of the stomach and duodenum. Again the preponderance of males over females, so well known clinically, is borne out. Graph V separates the deaths into those due to gastric, and those due to duodenal ulcer.




PEPTIC ULCER.

# GRAPH IV

DEATHS IN AGE-GROUPS, 1934.




GRAPH V

DEATHS IN AGE GROUPS. 1934.

The following tables, (Tables I & II.) demonstrate the disproportion of mortality experience in peptic ulcer, between town and country dwellers.

TABLE I

Total Deaths from Peptic Ulcer, in the Aggregate of County Burghs of E & W. outside Greater London 1934.

| | Deaths. | Population. | Death-rate per million. |
|---|---|---|---|
| Males. | 1021 | 6,059,500 | 168. |
| Females. | 330 | 6,681,300 | 49. |

TABLE II.

Total Deaths from Peptic Ulcer in the Aggregate of Rural Districts of E & W., outside Greater London 1934

| | Deaths. | Population. | Death-rate. |
|---|---|---|---|
| Males | 453 | 3,746,500 | 121. |
| Females | 187 | 3,792,100 | 49. |

The above disproportion has been ascribed by certain workers to the "increased nervous tension" of city life, and to some extent this hypothesis will be further substantiated in the study of the morbidity figures shown on page 33. The disproportion is, however, largely accounted for by the fact that the more severe cases are frequently referred from the country, to the hospital in the city, thus weighting unduly the figures of the latter.

## II. MORBIDITY, INCAPACITY for WORK and LOST - TIME RATES.

Reliable data are only available for the past four years, and refer to the working-class population of Scotland. Among this population in the year 1933-34, there occurred 341,046 cases of incapacity for work from all causes, and losing in the year, a total of 16,870,515 days. Of this total, no less than 3681 cases were due to peptic ulcer, accounting for 330,208 lost days, each case having an average loss of 90 days. (Peptic ulcer therefore formed 1.1% of all causes of incapacity, male and female, and accounted for 2% of all lost-time.

The following tables (Tables III, IV and V.) illustrate the fact that, although incapacity for work, due to all causes, has declined steadily, yet incapacity due to peptic ulcer has shown a steady increase.

### TABLE III

Days of Incapacity from all causes /1000 of Working Population, Scotland.

| | |
|---|---|
| 1932-33 | 10.86 |
| 1933-34 | 9.99 |

Percentage change:- -8.06.

TABLE IV.

Percentage of Incapacity from all causes due to Disorders of Digestive System. Scotland.

| | |
|---|---|
| 1932-33 | 9.84 |
| 1933-34 | 11.59 |

Percentage change:- + 1.75.

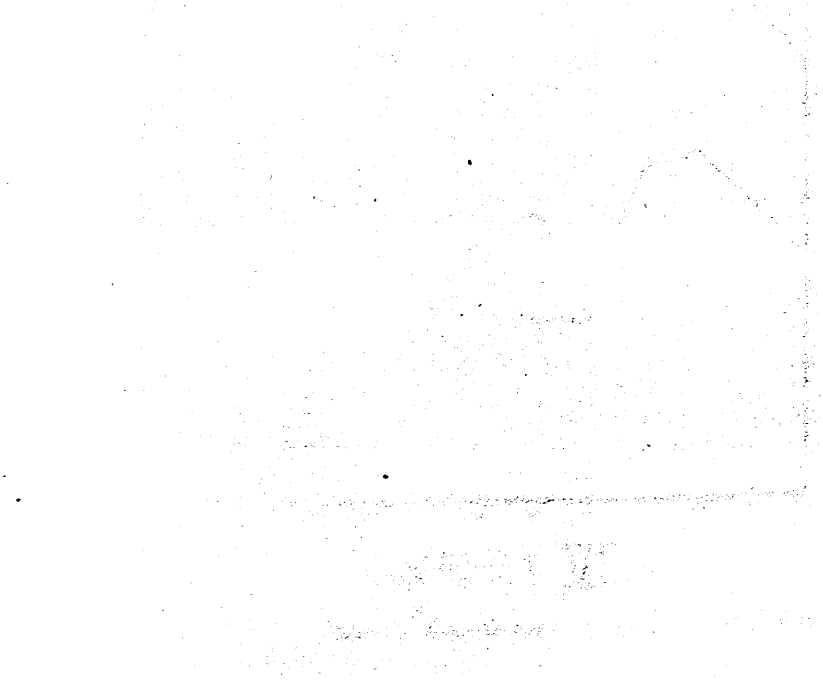
TABLE V.

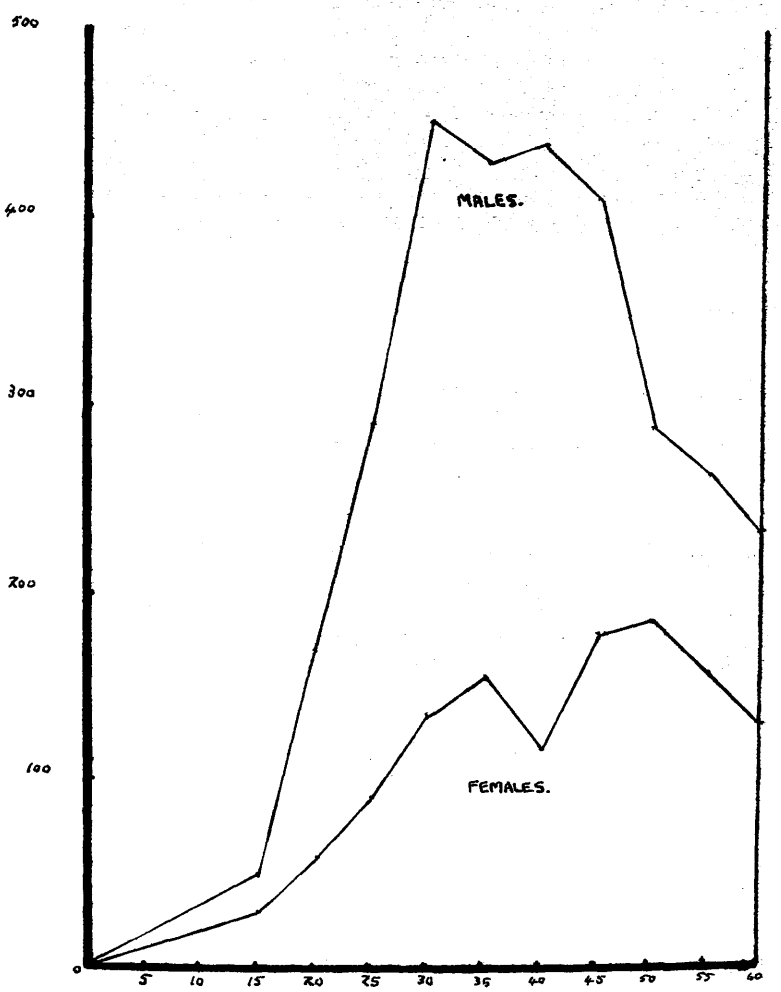
Percentage of Total Lost Day's of Work due to Disorders of Digestive System. Scotland.

| | |
|---|---|
| 1932-33 | 10.44 |
| 1933-34 | 11.04 |

Percentage change:- + .6%

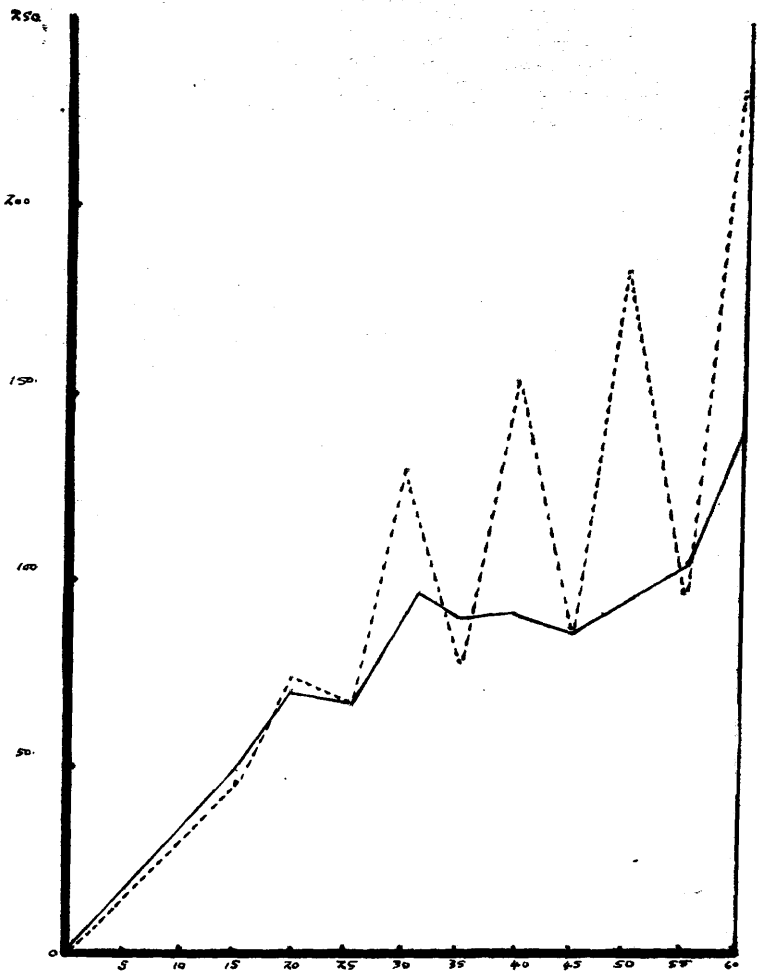
Graph VI shows the age distribution, and Graph VII the duration of incapacity, at ages, due to gastric and duodenal ulcer in Scotland, in the year 1933-34. The bizarre form of the curve of duration of incapacity among female workers, as compared with male workers, gives food for thought, and opportunity for further study.






GRAPH VI

SHOWING AGE-GROUPS AT WHICH INCAPACITY OCCURS.




GRAPH VII

SHOWING DURATION OF INCAPACITY IN DAYS, OF AGE GROUPS.

In further support of the contention that peptic ulcer is of commoner occurrence in the city than in the country, the following table, (Table VI) gives the ratio between its occurrence in the Scottish Highlands, and elsewhere in Scotland. It will be seen that males appear to suffer from the effects of urbanization, to a greater extent than females.

TABLE VI.

Incidence of Gastric & Duodenal Ulcer / 100,000 Working Population. Scotland. 1933-34.

| | MALES | FEMALES. |
|---|---|---|
| Scottish Highlands | 170 | 121 |
| Elsewhere Scotland | 285 | 85 |
| Ratio, Highlands/ Elsewhere | 0.6 | 1.4 |

# THE PEPTIC ULCER CLINIC.

THE PEPTIC ULCER CLINIC.

Of recent years there has been an increasing tendency to centralise the treatment of disorders affecting large sections of the population, in clinics adapted specially for the individual purpose, and staffed by specially trained officers. As examples may be cited the development throughout the country of clinics devoted solely to the treatment of venereal diseases, tuberculosis, diabetes, and fractures.

It has been shown in a previous section that peptic ulcer and allied conditions constitute a problem of individual, economic and national importance, giving rise, as they do, to much ill health, actual lost working time and subnormal working capacity. There has recently been organised, at King's College Hospital, on an experimental basis, a clinic for the management and treatment of patients suffering from peptic ulcer and allied conditions. This has been done as an attempt to remedy the somewhat unsatisfactory way in which treatment was previously carried out. Before 1935, many such patients were seen in the out-patient department, and of these, only a few could be admitted. For the remainder, the hospital served largely as a diagnostic station. Even so, the number of cases

which had to be admitted constituted a very formidable drain on the bed-accomodation of the hospital, and their prolonged treatment did much to prevent the admission of more urgent cases.

It is obvious that certain disadvantages accrue from the detachment of patients suffering from peptic ulcer from the general medical unit. Coincident disease of other systems may be neglected. On the other hand, the advantages of such detachment are many. A more exhaustive type of examination is possible, and diagnosis facilitated; the medical wards are relieved to a certain extent; the collection of large numbers of case records prove of scientific and statistical value. Not the least advantage is the relatively low cost of treatment obtained by use of a special clinic.

Since its inauguration in November, 1935, 378 patients have attended the clinic; the majority remain in attendance, for observation and treatment. The number of bed-days in the medical wards, occupied by patients suffering from peptic ulcer, was 943 during the period, January-May 1935. During the corresponding months of 1936, this figure had fallen to 575, a reduction of 39%. It would appear, therefore, that the clinic serves an increasingly useful purpose.

Without entering into unnecessary detail, the following short description will denote the general administrative arrangements of this clinic.

The patients have, in all cases, already passed through the main medical or surgical out-patient department, and if treatment beyond the scope of the clinic is required, they are referred back to the honorary physician or surgeon, under whose care they originally were.

The staff consists of two senior medical officers, and one junior medical officer, a senior surgical officer, and a junior surgical officer. A strong liason has been created with the radio-diagnostic department, and with the biochemical department of the hospital. The remainder of the staff consists of nursing staff and a stenographer. The general dispensary of the hospital provides such medicine as is prescribed.

At the first interview, each patient has a history taken, and an examination made; entries are made on a specially prepared form, a specimen of which is shown on page 40. Subsequently, every case is examined radiologically, and film records are kept. The gastric

residuum is then investigated, and the percentage haemoglobin measured. In selected cases, a gastroscopic examination is performed. The details of these examinations will be briefly alluded to later.

In this way it is possible to classify cases at an early date into:-

(a) Ambulatory cases.
(b) Domiciliary cases, treated with bed rest.
(c) Cases requiring immediate or subsequent in-patient medical treatment.
(d) Cases requiring immediate or subsequent in-patient surgical treatment.
(e) Cases unsuited for treatment from the clinic.

Experience has shown that by far the greater number of all cases, can be allotted to group (a) or (b).

Where possible, domiciliary cases are treated in conjunction with the patient's own doctor.

Each patient attends fortnightly until conditions have become stabilised. Where daily treatment is essential, this can be arranged to meet with the reasonable requirements of the patient's occupation; for example, where the daily injection of histidine has been prescribed,

this can be arranged, by appointment, at any hour between 8 a.m. and 8 p.m.

Provision for after-care is made in all cases. Co-operation with the hospital almoner is secured in all necessitous cases.

Such then are the experimental arrangements of the clinic. It is as yet, perhaps too early to forecast the precise value of The Gastric Ulcer Clinic, in the treatment of peptic ulcer in a wider sphere. It is certainly a method of approaching the problem, in its largest sense, that merits trial, and the early results at King's College Hospital are sufficiently encouraging to justify extension of its activities at other centres.

One of the commonest arguments against the clinic method of treatment, with which I have had to deal, is that patients may not adhere to the necessary restrictions imposed on their diet and mode of life, without direct supervision such as obtains in the hospital ward. In this clinic, the usual experience is very contrary to this belief, since, in the majority of cases, the greatest difficulty is experienced in persuading the patient to make additions to his diet, that would seem justified in

light of his improvement. In a great number of cases, when the patient is promoted from the diet composed of fish, eggs and milk, to one containing meat, one finds that he is loathe to risk a relapse, and aks to be allowed to remain in the more restricted regime. This experience is shared by our colleagues in the diabetic clinic. Perhaps it is only fair to add, that both clinics deal only with proven cases, whose complaint is genuine, and so, naturally, is the desire for relief.

# INITIAL DIAGNOSIS.

INITIAL DIAGNOSIS.

In this clinic the initial diagnosis is made on the history in general. On actual physical examination, it has been our experience, that, as a rule, signs are limited to epigastric tenderness on palpation. The points in the history to which special attention is paid in every case are incorporated in the following specimen questionnaire, which is used as a filing record.

FORM OF QUESTIONNAIRE USED AT THE GASTRIC ULCER CLINIC, KING'S COLLEGE HOSPITAL.

PEPTIC ULCER CLINIC.

Name .... Age .... MSW .... Book No. ....

Address .... Doctor .... Referred by ....

Occ. ... Habits. ...

Total length of history. ... Length of present attack ....

Pain .... p.c. .. Situation .. Relieved by ....

Nausea .. Vom .. App .. Bowels .. Wind .. Weight .. Haematemesis

Previous treatment. ..... Diagnosis .....

Treatment .....

X-ray .....

Gast Res. .....

Gastroscopy. ..... To attend. .....

# RADIOLOGICAL EXAMINATION

RADIOLOGICAL EXAMINATION.

The diagnosis having been established clinically, it is in each case then confirmed radiologically, and film records are made before and in the course of treatment.

For the accurate radiological diagnosis of gastric and duodenal ulcer, the radiologist must be an expert. He often has to manipulate the opaque meal into the ulcer niche with his hands, and for this purpose, both the upright and prone positions must be used. The latter position is, of course, essential when there is an ulcer on the posterior wall of the stomach, since, in the upright position, it is possible that the opaque meal may pass through the stomach without coming into the necessary close approximation with the ulcer niche.

Without any special preparation, the patient is given, during the fasting state, half a pint of barium carbonate to swallow, and films are taken immediately, and after three hours, in both upright and prone positions. Similar films are made, during the course of, and at the termination of treatment.

One is in accord with the present view that the radiological appearance of an ulcer is of little value in estimating the size of that particular ulcer, since

it has been adequately demonstrated that the outline obtained radiologically is due to surrounding oedema of the mucous membrane, as much as to the ulcer cavity. Several workers are of the opinion that radiological evidence of healing is not necessarily due to disappearance of the ulcer, but is merely the result of dissipation of the surrounding oedema, thus rationalising the finding of clinical evidence of ulcer, in spite of radiological evidence of healing thereof. Our own surgical colleague [25] at the Peptic Ulcer Clinic, along with such other workers as Davis [3] and Rogers [26] is of the opinion that the only real criterion of a healed gastric ulcer, is a normal appearance on gastroscopic examination. Nevertheless, the value of radiology, both in the initial diagnosis and at the termination of treatment, is irrefutable, and when used with reasonable care and common sense, is often all that is necessary.

# HAEMOGLOBIN EXAMINATION.

HAEMOGLOBIN ESTIMATION.

The haemoglobin percentage is estimated at the outset, and later, when necessary, by the usual Haldane method. In certain cases an examination of the faeces for the presence of occult blood is also made, after the usual preliminary precautions with regard to diet.

# THE GASTRIC RESIDUUM.

THE GASTRIC RESIDUUM.

The gastric residuum is estimated in every case. For the purposes of this particular clinic the use of the more elaborate test meal has been abandoned in favour of the comparatively simple estimation of the fasting gastric juice. The former examination can only be conducted efficiently in the wards.

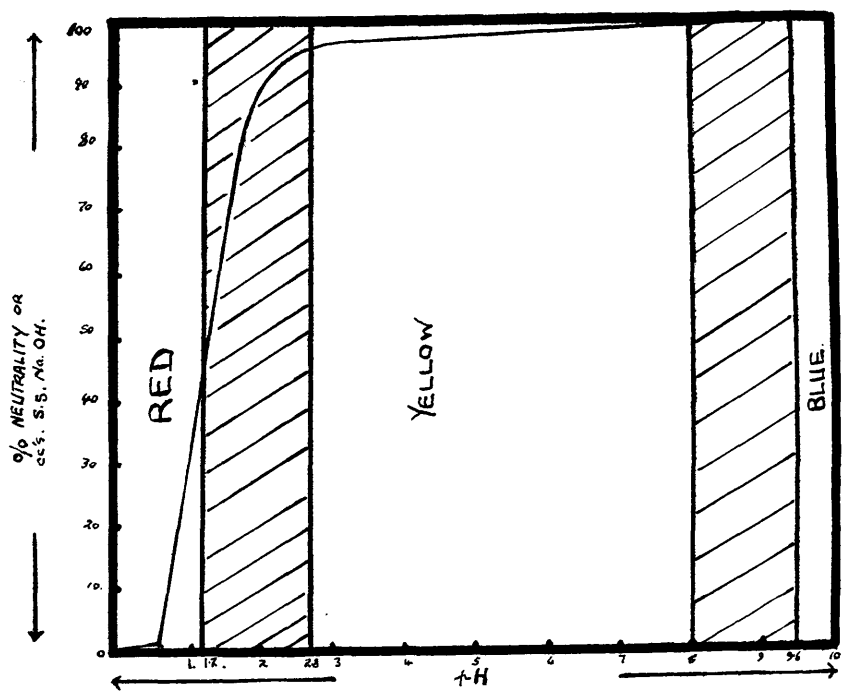
The patient is instructed to attend the clinic in the fasting state. A standard Ryle tube of No.8 gauge is passed into the stomach, and the entire gastric residuum is withdrawn. As a rule no difficulty is experienced when the patient is properly reassured, and in a series of over 120 cases, I have known of only one failure, where the patient was an excessively emotional woman who fainted before the tube had reached the pharynx.

The physical characters, and the reaction of the residuum are noted. If the contents are acid to litmus, some of the specimen is filtered, and 2 cc's of the filtrate are then titrated with a decinormal solution of sodium hydroxide, using two drops of a .1% solution of Neutral Thymol Blue, as the indicator.

This indicator gives an immediate red colour in the presence of free hydrochloric acid and on titration, ranges in colour from red through orange, to a distinctive yellow colour. This end point denotes accurately the amount of free hydrochloric acid present. On further titration, the colour again changes from yellow to blue, when complete alkalinity has been reached. This end point denotes the total acid present in the residuum.

These reactions may be denoted graphically thus:-
(See graph VIII on following page).

NEUTRAL THYMOL BLUE.




COLOUR CHANGES. FROM RED TO YELLOW, Between pH 1.2 & 2.8.
FROM YELLOW TO BLUE. Between pH 8, & 9.6.

GRAPH VIII

It will be seen that the reagent Neutral Thymol Blue provides a speedy and accurate means of estimation of both free and total acid, and is in many ways superior to those formerly in use.

The interpretation of the result of examination of the gastric residuum requires experience. In health every degree of acidity may be found from achlorhydria to hyperchlorhydria. However, the average gastric juice, after 12 hours of fasting has a concentration of ·070N., corresponding to a titration value of 46cc of N/10 NaOH Wide variations from the average may not be pathological, but may be caused by the secretion of an excess of mucus. Sodium chloride and even sodium bicarbonate may be secreted by the gastric mucus membrane, and the alkaline contents of the duodenum may be regurgitated in such a way as to upset the average acidity. The carbon dioxide tension of the fasting blood governs, to a large extent, gastric acidity. To some extent, this in turn is related to the amount of haemoglobin present. Thus we may find variations in the same individual, when the fasting juice is examined on different occasions. Finally one must bear in mind that emotion and psychological upset may cause even complete achlorhydria. It is therefore necessary to secure co-operation with the patient in every

in order to secure comparable results. It will be remembered that in postmortems performed after capital punishment, the victim's last meal is invariably completely undigested.

# GASTROSCOPY.

GASTROSCOPY.

The operation of gastroscopy has been performed for over half a century, being first recorded by Mukilicz, who used a rigid steel tube which permitted of direct vision of the gastric mucosa. The Sussmann semi-rigid type of gastroscope was the instrument most widely used until 1932, when Wolfe and Schindler introduced the flexible gastroscope which has superceded all previous instruments and has converted an operation, previously attended with grave risks into one with little or no risk, and attended with only a slight amount of discomfort to the patient, in competent hands. The standard work on the use of the gastroscope has been written by Professor François Moutier of Paris, who, along with Professor Norbert Henning of Leipzig was the first to use the new instrument in a large series of cases.

The gastroscope permits of direct inspection of the greater part of the mucous membrane of the stomach, but it requires a great deal of experience in the technique of this operation, in order to assess the value of one's findings. By comparison with the analogous operation of cystoscopy, the difficulties are very

numerous,owing to the constant variations in the size and shape of the stomach, due to the diaphragmatic excursions, and to peristalsis, and also to the natural variations in the colour of the different portions of the gastric mucosa. Unlike the bladder, it is impossible to inflate the stomach uniformly, and thus experience is necessary in the differentiation of the greater, from the lesser curvature and of the anterior from the posterior walls.

Gastroscopy should never be substituted for radiological examination in gastric ulcer, but should be used only as a confirmatory measure in obscure cases; it may be of inestimable value in checking the progress of medicial treatment, when this is in doubt. It is often of the greatest assistance in the diagnosis of cases of suspected carcinoma, the gastric lesion where radiography fails more often than any other. It may also help to solve the problem of chronic gastritis, when other dyspeptic conditions are in doubt. The contraindications to the use of the gastroscope are, aneurysm of the aorta, stenosis or diverticulosis of the oesophagus, and cirrhosis of the liver, with its attendant oesophageal varicose enlargement.

The Wolf-Schlinder gastroscope is constructed on the same principle as the cystoscope, except that the distal 12 inches is composed of rubber, sufficiently

flexible to be bent to an angle of 30 degrees, while the visual field remains clear. Illumination is provided by a strong 12 volt bulb, and the tip of the instrument is provided with a sorbo-rubber buffer, which serves the double purpose of clearing away mucus and providing the necessary bolus to elicit the swallowing reflex. There is an ingenious arrangement of bi-convex lenses within the flexible tube, allowing an image to be obtained even when the axis of the tube is bent to a considerable degree. The shaft carries an air canal through which air is introduced into the stomach by a hand bellows, to permit of the requisite distension. The bore of the gastroscope is not much greater than that of the ordinary stomach tube, being 11 millimetres in its widest part.

I TECHNIQUE OF GASTROSCOPY.

The patient is advised to fast for 12 hours before attending the clinic. A preliminary injection of Morphine and atropine is given, and a local anaesthetic, eg. 2% dessicaine, is applied to the fauces. After withdrawal of the gastric residuum, the patient is placed on the left lateral position, on a special table for the gastroscopic examination. The gastroscope is passed carefully, and the patient begins swallowing as the tip

of the instrument reaches the crico-pharyngeus. After the instrument passes through the cardia the rest of the examination is made under direct vision, the stomach being moderately distended with air with the hand bellows. Distension of the stomach with air does not cause any distress, providing it be moderate and not done too quickly. The examination room should be suitably darkened during the examination.

## II APPEARANCE OF THE STOMACH BY GASTROSCOPY.

In the normal stomach the mucous membrane is of an orange colour, thus differing from the whitish colour of the mucosa of the bladder and rectum. The powerful illumination from the gastroscope may cause peculiar lighting effects, which may puzzle the inexperienced observer. The moist surfaces of the mucosa may reflect the light strongly, so that some parts appear as dazzling white areas, while others may show up in an orange colour.

The chief landmarks are the antrum and the collection of mucus...the "Lac Muqueux" of the French workers....which lies in the most dependent part of the stomach, and which usually is seen as a brilliant white

area. The antrum may be recognised as a narrowing of the stomach lumen, the folds of which may surround it to the extent of half or two thirds of the circumference. Peristalsis may cause it to contract in such a way as to bring about sphicter action, resembling the pylorus. The lesser curvature can be distinguished from the rest of the stomach by the absence of rugae. The anterior and posterior walls both show well defined rugae, which lie chiefly with their long axes parallel to that of the stomach. The pylorus can be seen in the majority of cases, but it may be necessary to wait for a considerable time before it comes into view. When the pylorus is closed it is seen as a dimple from which radiate a number of fine lines, and when relaxed, it shows as a wide opening with a slightly crenated outline. Through this opening the duodenal mucous membrane may be seen. Throughout the entire examination the stomach is in a constant state of movement, which, at first, is most disconcerting.

The following diagrams illustrate the technique of examination of the various zones of the stomach, as used in our clinic.

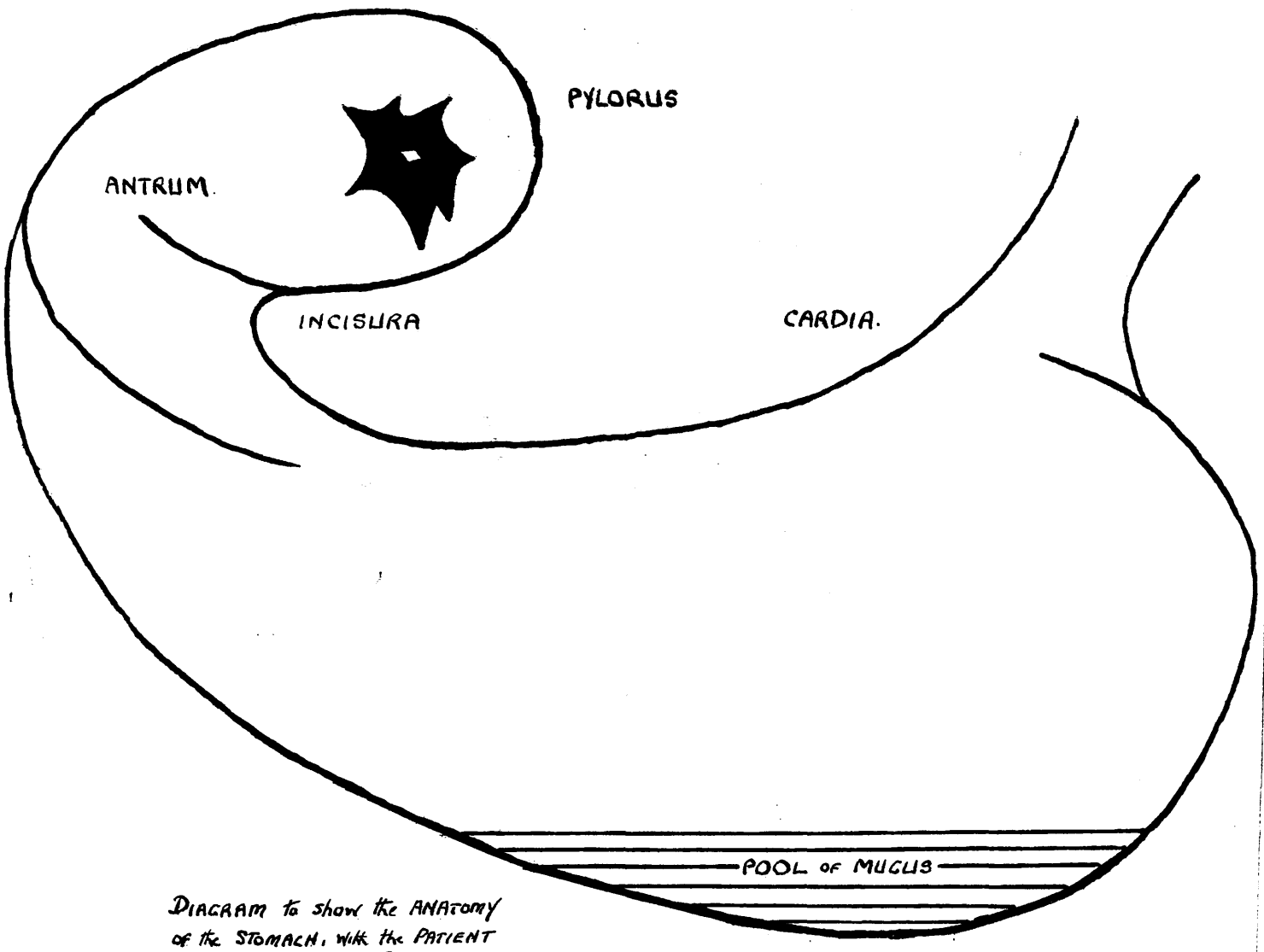



DIAGRAM to show the ANATOMY of the STOMACH, with the PATIENT LYING ON the LEFT SIDE.

FIGURE I

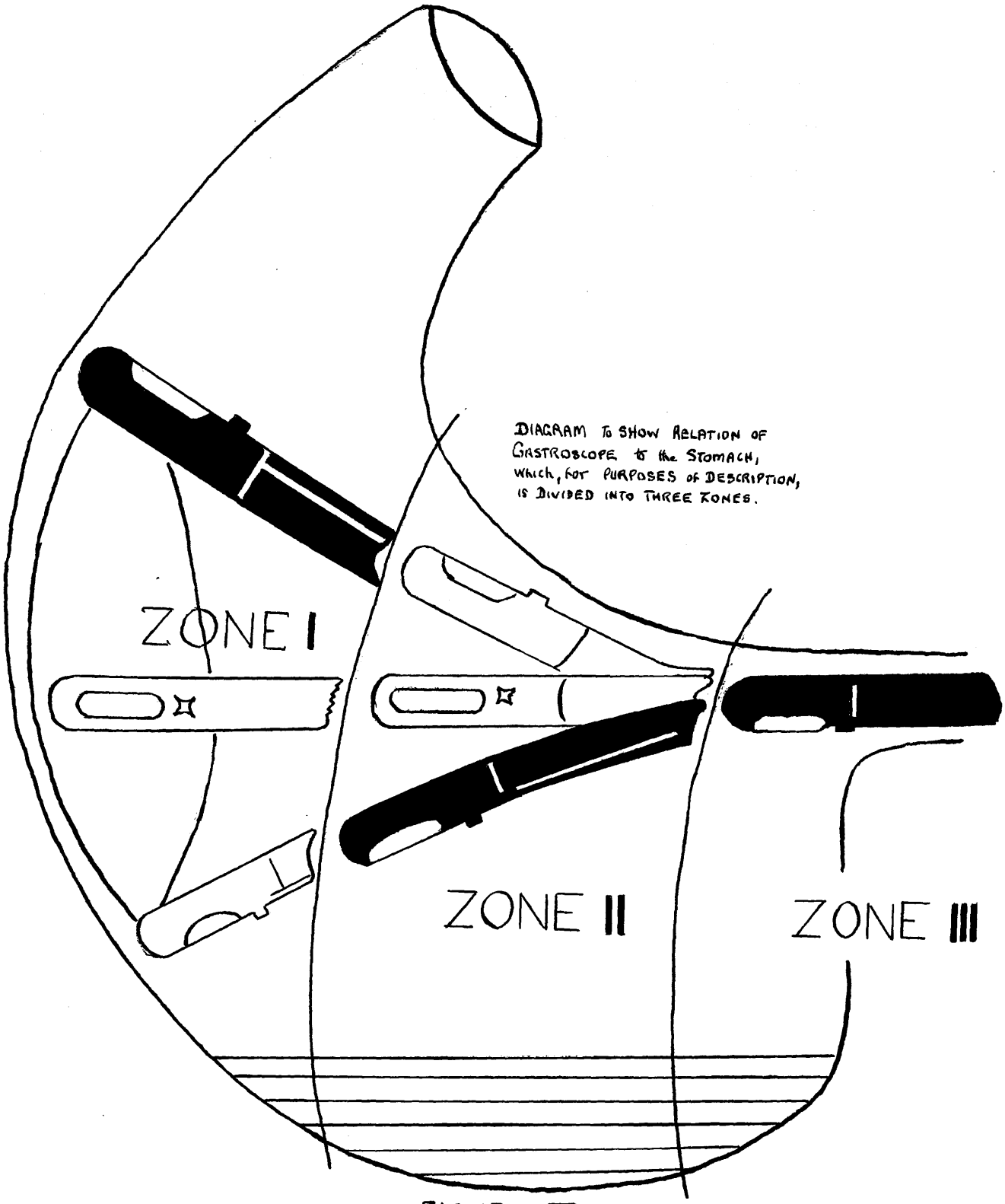


DIAGRAM TO SHOW RELATION OF GASTROSCOPE TO THE STOMACH, WHICH, FOR PURPOSES OF DESCRIPTION, IS DIVIDED INTO THREE ZONES.
ZONE I
ZONE II
ZONE III

FIGURE II

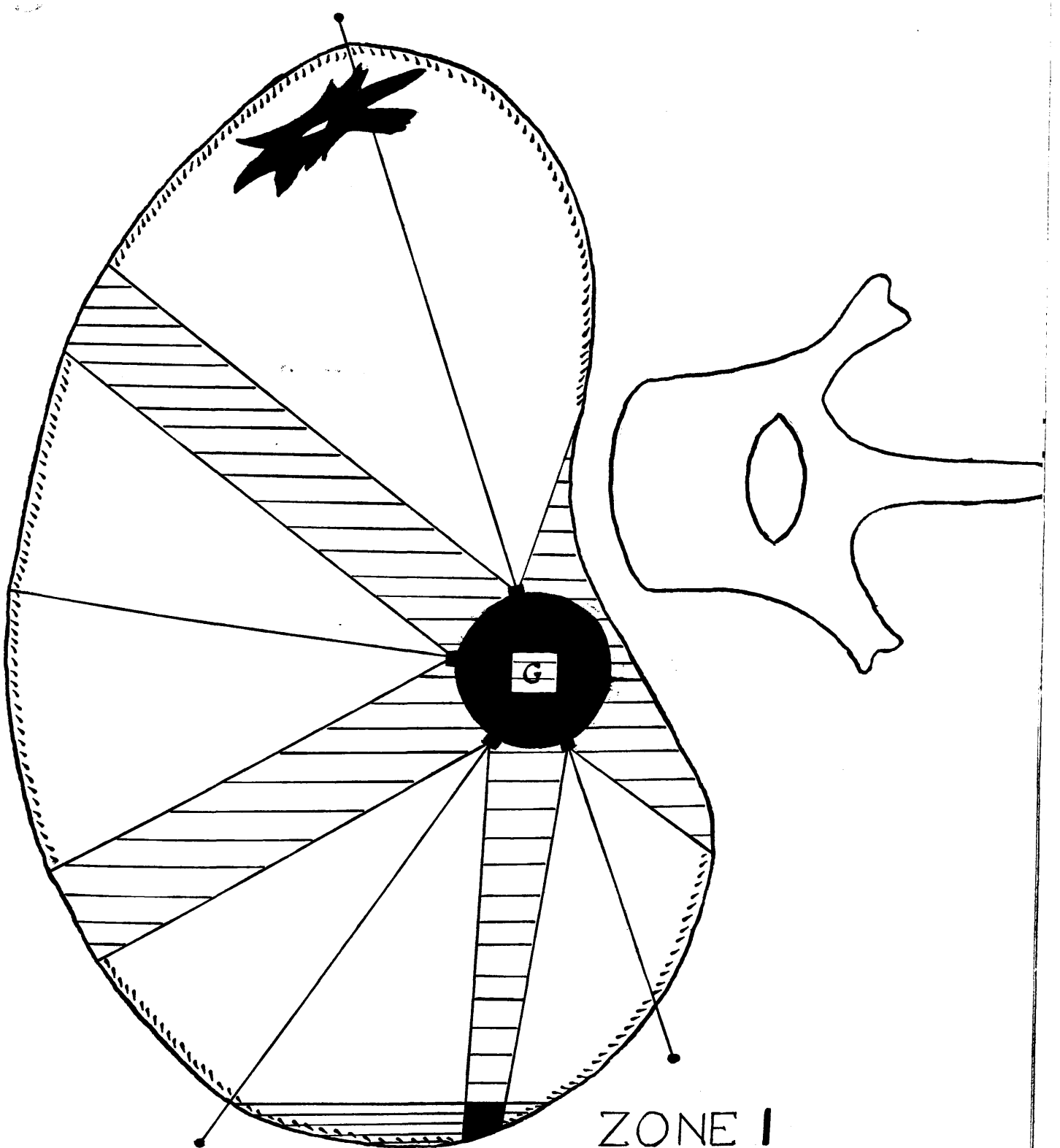



FIGURE III

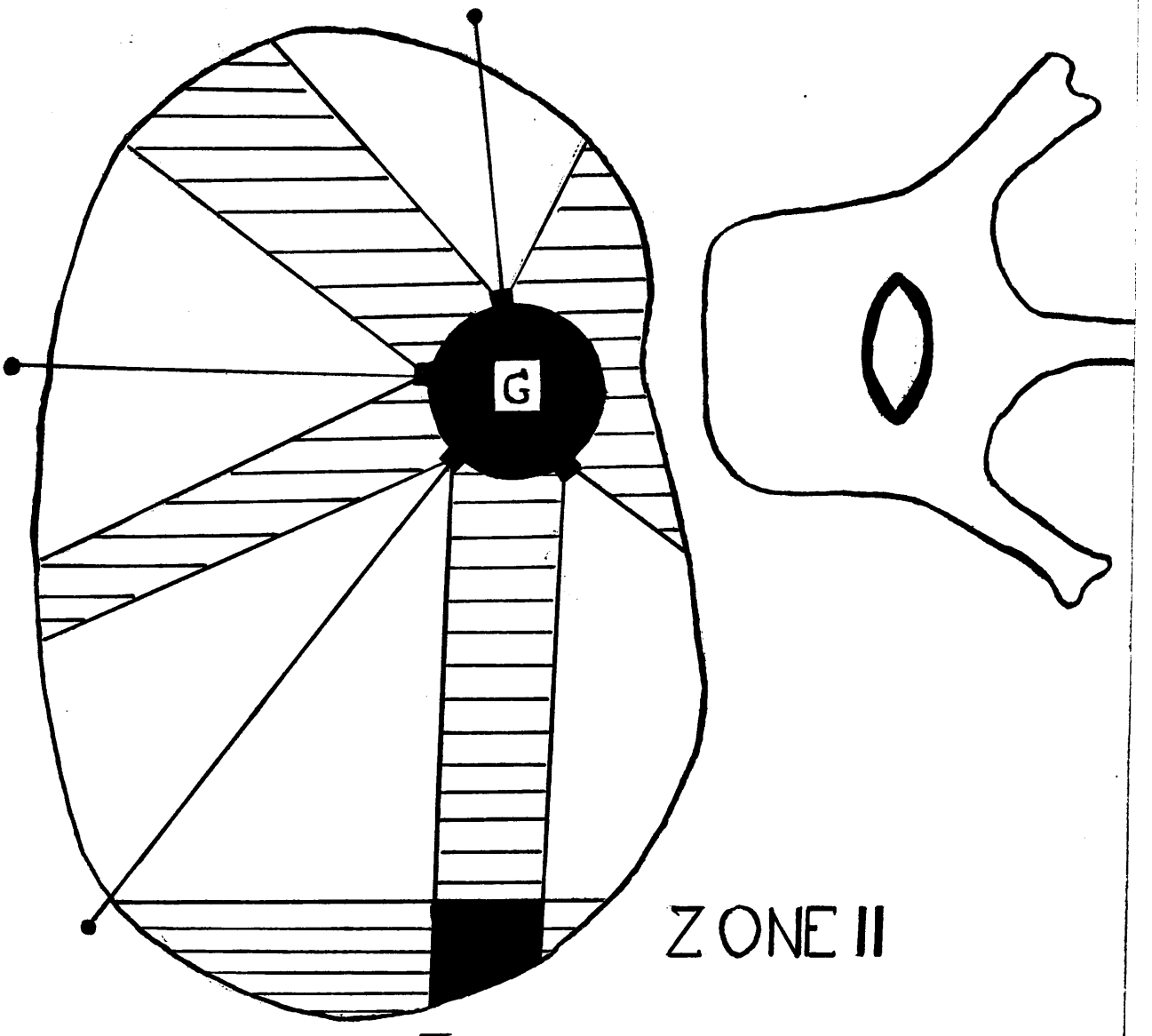



FIGURE IV

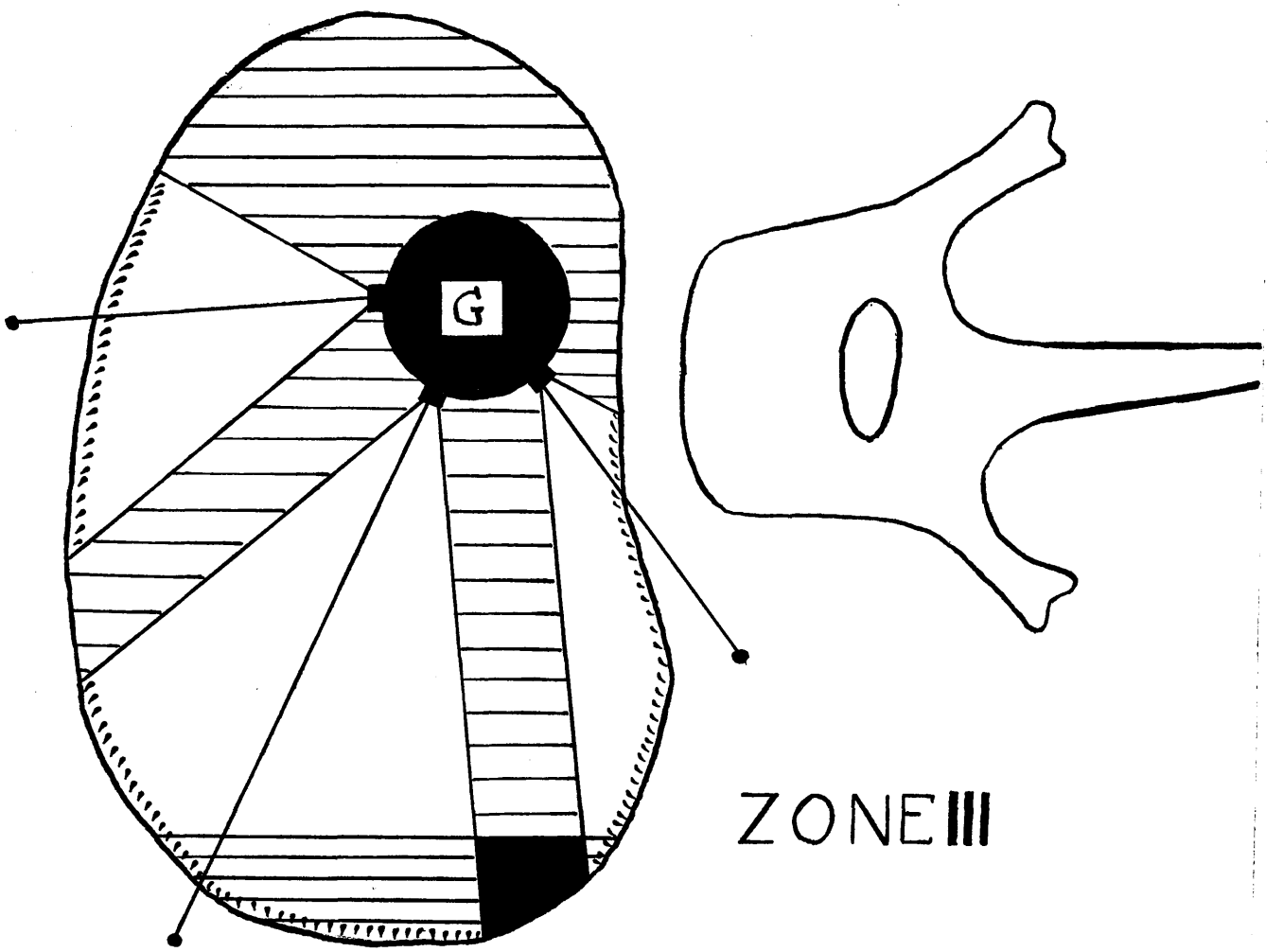



FIGURE V

The patient shows very little ill effect from the modern operation of gastroscopy. After the initial discomfort of passing the instrument, there may be in some cases, a residual sore throat which lasts for about two days. There is little or no risk attached to the operation, in the hands of a skilled operator. Nevertheless, it is my view that no patient should be subjected to gastroscopy, unless there are definite indications for this procedure, and unless the value of the operation outweighs the attendant discomfort to which the patient is subjected. Gastroscopy need never become a routine part of the examination of the stomach, but should be reserved for cases of doubt alone.

III THE VALUE OF GASTROSCOPY; in peptic ulcer.

The gastroscope affords the only immediate proof of healing of a gastric ulcer. Familiarity with the appearances seen on gastroscopic examination leads me to the belief that treatment should always be prolonged after the cessation of symptoms, and even after radiological evidence of healing has been obtained. In cases of small ulcers, or large flat ulcers, and of acute ulcers, the gastroscope may reveal the condition, which may not be apparent radiologically. Its use

in differentiating gastric ulcer from carcinoma, and from other types of dyspepsia has been alluded to. In a word, the gastroscope permits us to examine the state of the gastric mucosa.

I have made illustrations of the gastroscopic appearances seen in cases 3, 11, 13, 15, 18 and 39, (see pages 82, 99, 104, 109, 116 and 160.)

## SELECTION OF CASES FOR THE PRESENT SERIES.

## SELECTION OF CASES IN THE PRESENT SERIES.

The present selection of cases has been entirely arbitrary, except in so far as only those cases in which ulceration could be demonstrated radiologically, have been included in the series.

The particular treatment adopted in these cases did not lie in my hands, but was largely determined by the particular investigation which was being conducted in the clinic. An open mind was always kept as to whether medical or surgical treatment should be used. At the King's College Hospital Clinic, there is no prejudice against surgical treatment, and two surgeons are included on the staff. Surgical treatment is, however, usually reserved for patients who have had either prolonged medical treatment, or who prove refractory to it. In selected cases, surgical treatment may have to be instituted earlier on account of the patient's inability to devote the necessary time to medical treatment. Beds are also always available for the in-patient treatment of those cases who do not appear to be suited for treatment as out-patients.

It is generally recognised that more than one type of medical treatment is available for the sufferer from peptic ulcer. It is also recognised that, if treatment be conscientiously carried out, a fair measure of success is to be expected even although the minutiae of the procedure adopted depart from the standard laid down. Certain general criteria must be adopted, however, in almost all instances. The patient generally requires rest. In addition to physical rest, mental rest and quietude is exceedingly desirable. The environment may have to be adjusted. Above all, treatment must be adequate, and conducted over a sufficiently long period, not only to bring about a cessation of symptoms, but to allow, as far as possible, complete resolution of the local, and,possibly general,pathological process.

Despite the fact that more than one type of treatment is available, it is surely of importance to endeavour to establish the superiority of any particular method, either to be used exclusively, or as the method of choice for any particular type of case or circumstance. I have therefore studied the response to three kinds of medical treatment in a variety of patients. It is clearly too early to dogmatise from the results obtained, since all cases are subject to phasic variation, while

the permanency of freedom from relapse remains to be seen after a period of years. In order, therefore, to assess the value of any form of treatment, it has been necessary to adopt certain criteria of success, namely (a) absence of all symptoms; (b) negative radiological findings; (c) absence of occult blood in the stools; (d) absence of decreasing haemoglobin figure; (e) absence of decreasing weight. Finally, one can always have recourse to the gastroscope as a last court of appeal. It is not always necessary or even desirable to subject every case to all of these tests, unless the question of success of treatment remains in doubt.

# TREATMENT.

TREATMENT.

Three broad lines of medical treatment have been adopted for use at the clinic. Any of these may be combined with such other measures as rest, restriction of exercise, or habits.

1. Diet and Alkalies.
II. Injection of Histidine.
III. Magnesium Trisilicate.

I. DIET AND ALKALIES.

In the type of clinic under consideration, the diet offered to the patient must be one suited to his financial and physical requirements, as well as to his intelligence. Specimens of the diet sheets actually used are included, and these will be seen to differ but slightly from those of similar dietetic régimes.

Various dietetic measures have been used from time to time in the treatment of peptic ulcer, most of them having in view the reduction in output and neutralisation of gastric secretion. One of the earlier methods of attaining this end was the substitution of

nutrient enemata for all food by the mouth. This method has now been generally abandoned because, not only did the patient become rapidly anaemic and debilitated, but the desired result, namely neutralisation of the gastric secretion, was not obtained.

The Lenhartz diet was first introduced in 1904 [27] It consisted essentially of a high protein diet, composed of eggs, milk and raw ham. All feeds were iced, and given in frequent small quantities. This diet had much to recommend it, and many modifications have been used with some success. Minced chicken may be substituted for the raw ham, and Langdon-Brown [28] substituted plasmon for raw beef.

The Sippy [29] diet came into use in 1915, and was directed towards the protection of the ulcer from hydrochloric acid. To achieve this, belladonna was given before meals, and large quantities of alkali after meals. The basis of the diet was milk and cream mixed, The patient had hourly feeds during the day, and the stomach was emptied at night, by use of the Senoran evacuator, especially where pyloric obstruction co-existed.

Hurst [2] has followed the Sippy type of régime with excellent results. He feeds his patient each hour from 7 a.m. until 7 p.m. using citrated milk feeds.

Before alternate feeds, half an ounce of olive oil is given, and before the remainder, 5 minims of tincture of belladonna are given. After each feed the patient takes an alkaline mixture. The Senoran evacuator is passed at 11 p.m. and if more than two ounces of residue are obtained, it is passed again at 1 a.m. A large dose of bismuth-oxycarbonate is given at 6 a.m. It is easy to understand why this exacting, and exhausting treatment, which permits of continuous sleep only between 1.30 a.m. and 6 a.m. is resented by patient and nursing staff alike.

The treatment adopted in this clinic follows the principles laid down by Hurst very closely, but the type of diet and medication is much more simple, and given reasonable co-operation, can be carried out in the patient's own home. In addition to printed instructions about diet, each patient is supplied with the following.

I. Cremor Kaolin Alk. viz. Rx. Kaolin Dr.2.
Sodium-bicarbonate gr.10
Magnesium Carbonate Pond. gr.20
Calcium carbonate gr.20
Mucilage tragacanth dr.1
Aqua....ad oz. ½
M.Sig.Oz ½ as directed.

II. Olive oil.

III. Mistura belladonna (the dose of Tincture of belladonna being varied according to requirements of individual patients.)

IV. Powder and instructions for citrating milk.

These substances are used in conjunction with the various diets, incorporated in a scheme of instructions and diet which is given to every patient. The following pages contain examples of the course of instructions used in a typical case.

SHEET 1.

## GENERAL INSTRUCTIONS TO PATIENTS WITH GASTRIC ULCER.

"You are suffering from a Gastric Ulcer. This will take at least 6 weeks to heal and may in some cases take much longer.

In order to avoid prolonged ill health and even the danger of haemorrhage or peritonitis due to perforation of the bowel, you must closely follow the instructions which are given to you as to diet, medicine and general habits of living. Tarry motions are a sign of internal bleeding.

Do not cease to attend either the hospital or your own doctor until you have received instructions as to your permanent diet.

Smoking. During the first fortnight do not smoke at all. Subsequently you may smoke in the hour immediately after a meal only. A pipe is better than cigarettes.

Alcohol. Take no alcohol at all for the first three months.
After this you may take beer, light wines or weak whisky and water in small quantities with your meals but not before them.

Rest and Exercise. During the first three weeks of your treatment you should rest in bed, getting up only for toilet purposes.
After this you may take a gentle equivalent to walking four miles a day.
Do not undertake any strenuous exercise for eight weeks."

## SHEET 2.

### 1st and 2nd weeks.

"Stay in bed and get up only for toilet purposes.
Do not smoke.
Do not eat or drink anything which does not appear on this except cold water.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8.0 a.m. | Milk | or | Milk | and | Benger's | food. | |
| 10.0 a.m. | " | " | " | " | " | " | |
| 12.0 a.m. | " | " | " | " | " | " | |
| 2.0 p.m. | " | " | " | " | " | " | |
| 4.0 p.m. | " | " | " | " | " | " | |
| 6.0 p.m. | " | " | " | " | " | " | |
| 8.0 p.m. | " | " | " | " | " | " | |
| 10.0 p.m. | " | " | " | " | " | " | if awake. |

9 a.m. 11.0 a.m. 1.0 p.m. 3.0 p.m. 5.0 p.m. 7.0 p.m. and 9.0. p.m. take a dose of the medicine or powder with which you have been provided.

1. For 2 days take 2 ounces of milk or milk and Benger's Food at each feed.
2. From 3rd to 7th day take 4 ounces at a feed.
3. From 8th to 14th day take 6-8 ounces at each feed.
4. Add Sodium Citrate 1 dose (grains 10) to each feed of milk of 8 ounces and proportionately less to the smaller feeds.
5. Take medicine, powder, etc. regularly.
6. Take 1 tablespoonful of ordinary Olive Oil three times a day half-an-hour before meals.
7. If the bowels do not act take a dose of salts."

## SHEET 3.

### 4th - 6th or 8th week.

"Although you are now free from pain the ulcer is still present in your stomach. Keep carefully to the following instructions.

Smoke only immediately after meals and then only in the strictest moderation. A pipe is less harmful than cigarettes.

Take no alcohol.

Use only very small quantities of salt.

Take no pepper, mustard, vinegar, sauces or spices.

Breakfast. Porridge, Shredded Wheat or Force with milk or cream and sugar.
1-2 boiled or poached eggs.
Toast or rusk and butter.
Milk flavoured with tea or coffee.

9.30 - 10.30 a.m. Glass of milk with a biscuit.

Midday Meal. Boiled, steamed or pounded white fish, or creamed chicken or rabbit.
Mashed potatoes with milk and butter, mashed peas or boiled rice.
Milk puddings, jelly or baked custard and cream.
Toast and butter.

Tea. Milk flavoured with tea. Toast and butter.

Evening Meal. White fish or eggs.
Rest of meal as at midday.

Do not allow more than 3 hours to pass without a meal of some sort.

Before retiring to bed take a glass of milk.

1. Powder medicine or tablets to be taken 3 times a day about an hour after meals and an extra dose just before going to bed.

2. Olive Oil 1 tablespoonful 3 times a day about half-an-hour before meals.

3. Take salts if the bowels do not act regularly.

SHEET 4.

3rd to 12th month.

"Your ulcer is now healed.
It may return if you do not keep to the following instructions:

More than three hours must never elapse between meals or snacks.
Take four regular meals daily with a snack of milk and biscuits in the morning and last thing at night.
Take only small quantities of beef or fried foods.
Do not take any rich soups, pork or bacon, salted or smoked fish or meat, coarse or uncooked vegetables, celery, radishes or salads, pastries, raw or sour fruit, strong tea or coffee.
Take very little salt, mustard or pepper.
Take no sauces, spices or curries.
Smoke only after meals. Never on an empty stomach.
You are allowed to take beer, light wines or weak whisky with your meals but avoid alcohol as far as possible.

Do not over-exert yourself.
If possible spend nine hours in bed each night.
Take your tablets regularly three times a day after meals and again just before going to bed.
Report immediately either to the hospital or to your own doctor if you have any recurrence of pain.

Instructions to Patients discharged after operation for gastric or duodenal ulcer.

---

The operation which you have just undergone has removed the ulcer but it may quickly return if you do not follow the instructions above as to diet, mode of life, etc.

It is important that you attend either the hospital or your own doctor until you are told that such attendance is no longer necessary."

## II. HISTIDINE.

The rationale of treatment of peptic ulcer has been discussed already, under the section on theories of causation of peptic ulcer. It assumes a deficiency of amino acids. More recently it has been suggested by Eads [30] that histidine may be either a factor necessary to cell integrity and repair, or else that it may be effective by causing a secretion rich in protective acid-combining mucin. Thus it would appear that the oral administration of mucin, as an adjuvant to other methods of treatment, would be worth trial. I have not been able to find any record of such a combination, although Jones [31] gives an account of its use alone, in the treatment of gastric ulcer.

The various dietetic and medicinal treatments of peptic ulcer, although often yielding excellent results when adhered to carefully, are both complicated and irksome, so that any new line of treatment, which is simple in use, and which would show equally beneficial results, would be generally acceptable. It is not yet known whether histidine will fulfil the latter of these requirements. The results obtained from histidine therapy, as yet, do not appear to me to afford any real

unanimity of opinion. Some workers appear satisfied, while others condemn the substance as being worse than useless. Part of the object of this study has been to try to give a reasonable opinion as to the probability that histidine will produce and maintain, cure.

Most of those patients in the clinic who were put on to histidine treatment, were, at first, put on to Diet 4. Later on, in view of the unsatisfactory results dietetic restrictions had to be introduced, and Diet 3 was generally adopted. Thus, at the outset, it will be seen that any account of histidine which follows must be accepted with the reservation that some dietetic restrictions were also used.

Histidine is administered in the following manner. A course of 21 injections is prescribed, either subcutaneously or intramuscularly. Injections are made daily, and consist of 5 cc's of a 4% solution of histidine monohydrochloride.

III. MAGNESIUM TRISILICATE.

The silicates of magnesium have long been used in medicine, and recently the trisilicate salt has been

requisitioned in the treatment of peptic ulcer. Originally tested by Mutch,[32] the rationale of trisilicate treatment depends upon the antacid and adsorbent properties of silicates in general.

All silicates possess powerful adsorbent properties, and are antacids as well. These properties become optimum in the trisilicates, and rapidly diminish as the series increase, tetrasilicate having practically negligible therapeutic properties, beyond its use as talc.

The benefits of magnesium trisilicate are:-

1. It is completely innocuous when taken by the mouth even in enormous doses. There appears to be no danger from alkalosis.

2. It does not interfere with normal bowel action.

3. It exerts a neutralising action on gastric secretion, which is prolonged for several hours.

Even from this brief enumeration of the properties of magnesium trisilicate, it would appear to be a substance which should readily prove applicable in the treatment of hyperchlorhdria and peptic ulcer, differing

as it does from other antacids in the vigour of its adsorbent action. The fact that its neutralising action is so prolonged allows of the administration of the minimum amount of mineral base with which to control hyperchlorhydria, almost continuously, without the slightest likelihood of the onset of alkalosis.

In this clinic, a certain number of cases have been treated by a moderate degree of dietetic restriction, together with the administration of magnesium trisilicate cream (British Drug House preparation, one ounce of which contains 33 grains) in doses of half an ounce four times daily.

# CASES TREATED WITH DIET AND ALKALIES.

Case number. 1
Date of first attendance at gastric ulcer clinic. 12/2/36.
Age. 41 Years.
Sex. Male. ~~Female.~~ ~~Single.~~ Married.
Occupation. **Head Waiter**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 3 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | + | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | + |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 28 | 8 | 40 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 78 %
Gastroscopic examination. **Confirms radiological finding of small ulcer on lesser curvature.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 15/6/36 | |
| + | | ? ulcer still present | 0 |

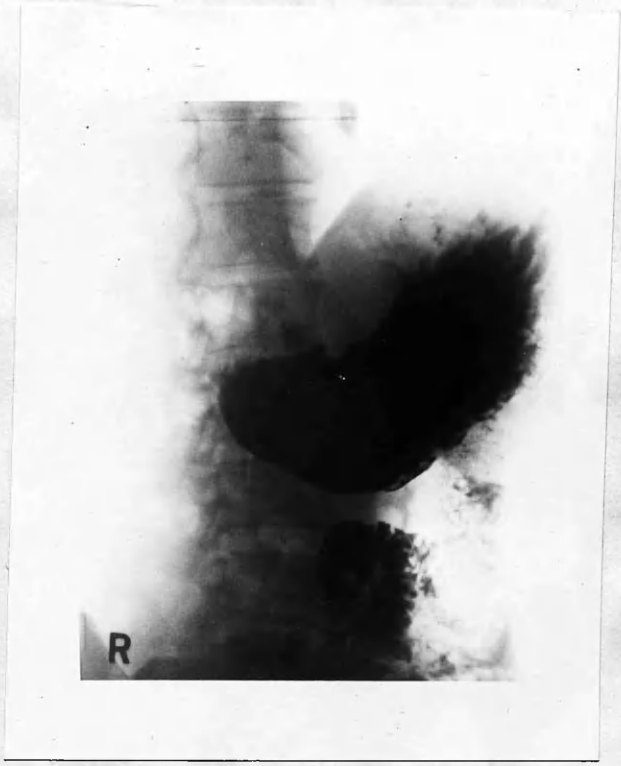
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 6 lbs. | 92% | No ulcer or scar present |

| Gastric residuum. | |
|---|---|
| | |

Summary. **Treatment with diet and alkalis successful. Gastroscopic examination proved healing of the ulcer. Response to treatment well maintained.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE I.




A. 12.3.36. Gastric Ulcer.


B. 17.6.36. No Ulcer Seen.

Case number. 2
Date of first attendance at gastric ulcer clinic. 14/2/36
Age. 30 Years.
Sex. Male. ~~Female.~~ Single. ~~Married.~~
Occupation. **Bricklayer**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 6 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. **Duodenal Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| **Deformed cap** | | **Delayed** |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 99 | 72 | 240 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + + |

Hemoglobin estimation. 100%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 4/3/36 | |
| + | | **Ulcer still present** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| **+ 4 lbs** | 100% | |

| Gastric residuum. | |
|---|---|
| **Hyperchlorydria +** | |

Summary.

**Responded well to alkalis. Radiologically, the ulcer did not heal. Five months after cessation of symptoms he had a sudden perforation.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 2.

A. 14.2.36. Duodenal Ulcer. deformed cap.

B. 13.5.36. Ulcer crater incompletely healed: marked deformity of cap.

Case number. 3
Date of first attendance at gastric ulcer clinic. 3/3/36
Age. 39 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Hairdresser**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 2 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | ½ hr | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ | 0 |

Clinical Diagnosis. **Gastric Ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | ? ? | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 cc. | 46 cc. | 60 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 104%
Gastroscopic examination. **Revealed a small ulcer on lesser curvature at incisura.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/7/36 | |
| + | | No ulcer seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 4 lbs. | 100% | Not repeated |

| Gastric residuum. |
|---|
| T.A.44. Free HCl 25 |

Summary. **Responded well to diet and alkalis, radiologically and symptomatically. Any anxiety state causes a recurrence of his discomfort.**

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 3.


A. 3.3.36. ? Small ulcer lesser curve, confirmed by gastroscope.


B. 20.7.36. No Ulcer Seen.

Case 3. Gastroscopy. 8/3/36.
Small ulcer, lesser curve at incisura.

Case number. 4
Date of first attendance at gastric ulcer clinic. 4/3/36
Age. 33 Years.
Sex. Male. ~~Female.~~ ~~Single.~~ Married.
Occupation. **Greengrocer**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. Years. 1 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 0 |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | **delayed** |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 44 | 27 | 30 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 90 %
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 13/5/36 | |
| + | | **Tiny ulcer still seen** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs | 90% | **Not done** |

| Gastric residuum. | |
|---|---|
| **Not repeated** | |

Summary.

**Responded well. By 17 /8/36 radiological evidence of ulcer had disappeared.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 4.

A. 4.3.36. Ulcer lesser curve, at incisura.
Reflex irritability of duodenum.

B. 17.8.36. Ulcer healed.

Case number. 5
Date of first attendance at gastric ulcer clinic. 30/3/36
Age. 52 Years.
Sex. Male. ~~Female.~~ ~~Single~~. Married.
Occupation.
**Post Office Supervisor**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 18 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ ↑ | 9 lbs |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 40 | 35 | 21 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 84 %
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 18/3/36 | |
| + | | Ulcer healed | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 8 lbs. | 94% | Not done |

| Gastric residuum. | |
|---|---|
| I.S.Q. | |

Summary.

**A good response to treatment**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 5.


A. 30.3.36. Large Ulcer: lesser curve.


B. 18.5.36. Ulcer healed.

Case number. 6
Date of first attendance at gastric ulcer clinic. 28/2/36
Age. 24 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. Years. 2 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | irregular | | 0 | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | + |

Clinical Diagnosis. Duodenal Ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 45 | 0 | 25 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 77%
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 14/5/36 | |
| + | | ? ulcer still seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 11 lbs | 79% | Not done |

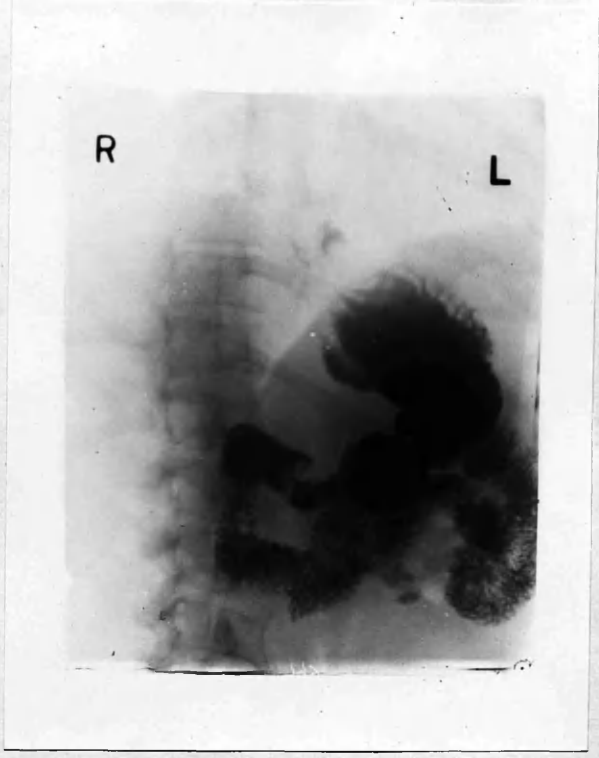
| Gastric residuum. | |
|---|---|
| Not repeated | |

Summary.

**Apparently responding well to treatment.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 6.




A. 14.5.36. In the course of treatment small ulcer niche still seen, with some deformity of duodenal cap.

Case number. 7
Date of first attendance at gastric ulcer clinic. 5/3/36
Age. 49 Years.
Sex. ~~Male.~~ Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 8 Years. Months. (Partial gastrictomy performed in 1931.)

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↓ | + |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | With hour glass deformity | still present at 6 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 14 | 0 | 62 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 65%
Gastroscopic examination. **Instrument passed as far as constriction: a great deal of scarring around a narrow opening between the two sacs. The mucosa pale and greatly swollen with oedema**
AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 4/7/36 | |
| | + | Ulcer seen. Deformity marked. | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| - 4 lbs | 62% | Not repeated |

| Gastric residuum. | |
|---|---|
| Achlorhydria | |

Summary.

**Medical treatment obviously useless. This case was referred for surgical treatment.**

Reproductions of radiological ~~(and gastroscopic)~~ examination are given on the following page.

CASE 7.


A. 5.3.36. Gastric ulcer; marked deformity of stomach.

Case number. 8
Date of first attendance at gastric ulcer clinic. 18/3/36
Age. 47 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Asphalte Boiler Driver**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. Years. 9 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | ½ hr | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ ↑ | + |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | **delayed** |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 18 | 0 | 25 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 96%
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/7/36 | |
| + | | Ulcer much smaller | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 26 lbs. | 100% | **Not done** |

| Gastric residuum. | |
|---|---|
| T.A. 39. **Free HCl 22** | |

Summary.

**This case responded well in every way to treatment. His X Ray ultimately became negative.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 8.

A. 18.3.36. Large gastric ulcer posterior aspect lesser curve.

B. 20.7.36. Ulcer much smaller.

Case number. 9
Date of first attendance at gastric ulcer clinic. 7/11/35
Age. 36 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Traveller**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 2 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | irregular | | 0 | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | 0 |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 59 cc. | 48 cc. | 65 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 80 %
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 6/2/36 | |
| + | | No evidence of ulcer | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 3 lbs | 96% | Not done |

| Gastric residuum. | |
|---|---|
| Not repeated | |

Summary.

**This case responded well to treatments.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 9.

A. 7.11.35. Gastric ulcer.

B. 6.2.36. No evidence of ulcer.

Case number. 10
Date of first attendance at gastric ulcer clinic. 26/9/35
Age. 38 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. Housewife

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 6 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| 0 | - | - | - | - |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | | |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. Duodenal ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | Residue at 6 hrs |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 56 cc. | 49 cc. | 68 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 70 %
Gastroscopic examination. Not done

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 7/11/35 | |
| + | | Duodenal cap still deformed | 0 |

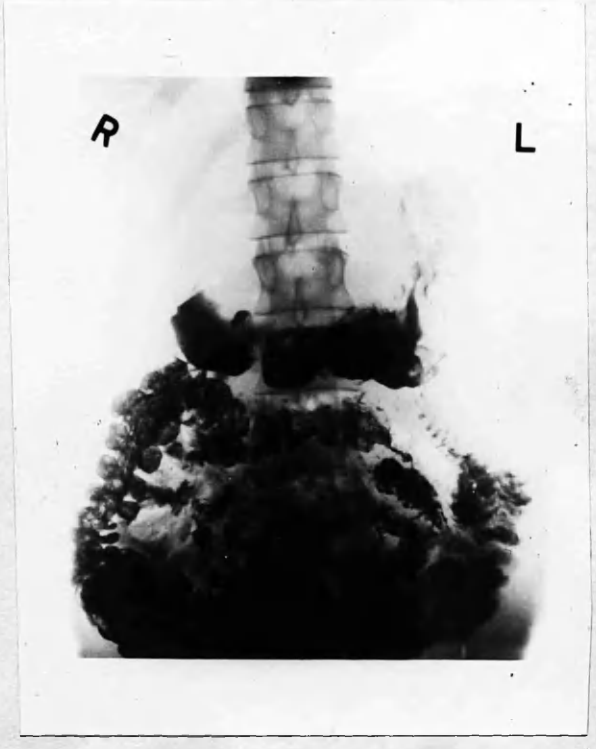
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 2 lbs | 76% | Not done |

| Gastric residuum. | |
|---|---|
| T.A. 70 Free HCl 60 | |

Summary.

This case is peculiar in the absence of pain originally. Otherwise she responded well to treatment but has recently relapsed and now has pain before meals. On 1/11/36. Duodenal Ulcer still present on screening.
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 10.




A. 7.11.35. Showing Duodenal ulcer with spasm, and deformity of cap. Clinical response to treatment.

Case number. 11
Date of first attendance at gastric ulcer clinic. 1/10/35
Age. 50 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Excavator**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 11 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ | + 14 lbs. |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | ? Ulcer crater 1" from pylorus. | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 34 | 25 | 20 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 92 %
Gastroscopic examination. **No definite ulcer seen. Suspicious crater 1" from pylorus.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 4/5/36 | |
| + | | No evidence of ulcer | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 14 lb | 92% | Not repeated |

| Gastric residuum. | |
|---|---|
| Normal | |

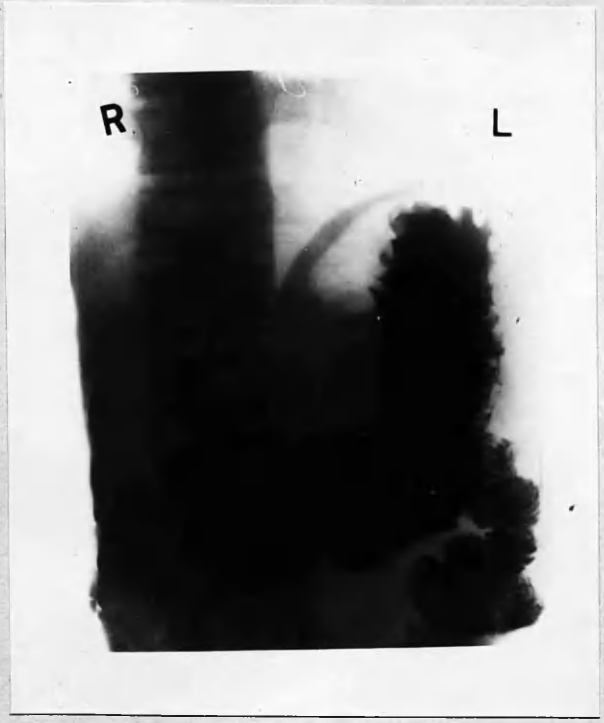
Summary.

**Responded favourably to treatment.**

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 11.


A. 8.11.35. Gastric ulcer at pylorus.




B. 4.5.36. No evidence of ulcer.

Case 11. Gastroscopy. 3/8/36. (After some treatment). No definite ulcer seen. Suspicious crater 1" from Pylorus.

Case number. 12
Date of first attendance at gastric ulcer clinic. 1/8/35
Age. 59 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 40 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | con-tinuous | | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ↓ | + |

Clinical Diagnosis. **Gastric ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 4 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 25 | 4 | 26 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 78%
Gastroscopic examination. **Not done**

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 12/12/35 | |
| + | | Ulcer healed | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs | 84% | Not done |

| Gastric residuum. |
|---|
| T.A.30. Free HCl 25. |

Summary.
**Responded well to treatment. After nine months no recurrence of symptoms and a year after disappearance of symptoms, no radiological evidence of ulcer.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 12.


A. 1.8.35. Small ulcer lesser curve.


B. 12.12.35. No evidence of ulcer.

Case number. 13
Date of first attendance at gastric ulcer clinic. 9/1/36
Age. 51 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Mechanic**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. Years. 3 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 28 **lbs.** |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 **hours** |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 60 | 55 | 30 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 68%
Gastroscopic examination. **Ulcer seen on the posterior wall of lesser curvature. Large, but comparatively shallow.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 8/6/36 | |
| + | | **No ulcer seen** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 10 lbs | 76% | **Not repeated** |

| Gastric residuum. |
|---|
| T.A.40. **Free HCl** 35. |

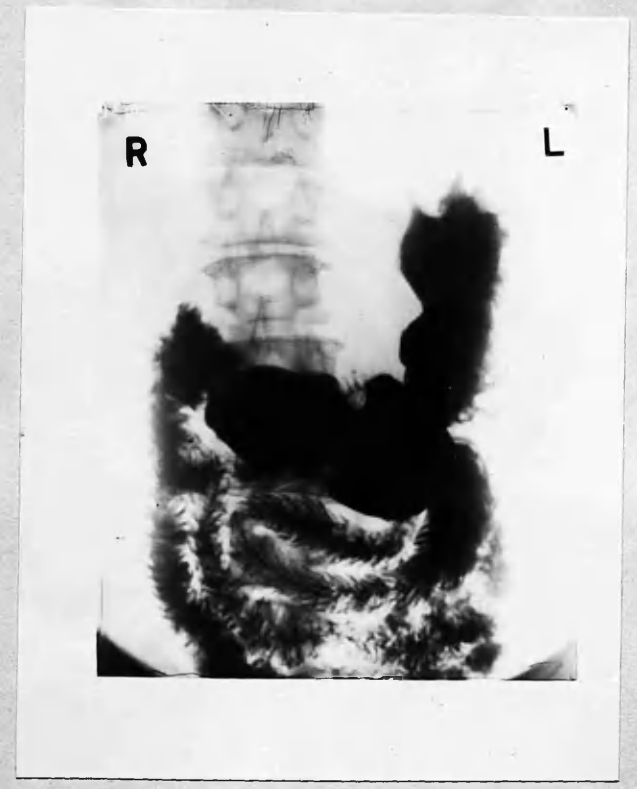
Summary.

**Responded well to treatment. He has however, discomfort if emotionally upset, although radiologically his ulcer has healed.**

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 13.

A. 9.1.36. Gastric Ulcer.




B. 8.6.36. No ulcer seen.

Case B. (13). Gastroscopy. 17/1/36.
Ulcer lesser curve and posterior wall.
Large but comparatively shallow.

Case number. 14
Date of first attendance at gastric ulcer clinic. 27/1/36
Age. 50 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 15 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | constant | | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 0 |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)
**Blood in fasting juice**

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 10 | 0 | 15 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 70% **W.R. doubtfully positive**
Gastroscopic examination. **Not done**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/4/36 | |
| + | | Ulcer still seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| I.S.Q. | 74% | Not done |

| Gastric residuum. | |
|---|---|
| T.A. 20 Free HCl 10 No blood present. | |

Summary.
**Responded favourably to treatment as regards symptoms, but three months later, the ulcer was still visualised on X Ray examination.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 14.


A. 27.1.36. Gastric ulcer lesser curve.


B. 20.4.36. Ulcer scarcely visible.

Case number. 15
Date of first attendance at gastric ulcer clinic. 3/1/36
Age. 55 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Clerk**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. Years. 2 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1 hr | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. **Gastric ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 24 | 10 | 30 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 96%
Gastroscopic examination.

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| I.S.Q. | 92% | Active Ulcer on lesser curvature. |

| Gastric residuum. | |
|---|---|
| | |

Summary.

**There is no improvement on treatment with diet and alkalis. At a later date he was treated with histidine and responded well. By 20/5/36 there were no symptoms and radiologically the ulcer had healed.**
Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 15.

A. 3.1.36. Gastric ulcer lesser curve.

B. 20.5.36. Ulcer not definitely seen.

Case 15. Gastroscopy. 10/1/36.
Active ulcer on lesser curve.

Case number. 16.
Date of first attendance at gastric ulcer clinic. 28/1/36.
Age. 30 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 2 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. **Duodenal Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| D.U. | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 46 cc | 20 cc | 30 cc |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 70%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 · | 80% | |

| Gastric residuum. | |
|---|---|
| | |

Summary. **This patient showed a distinct improvement on diet: alkali treatment; subsequently became pregnant and has not been Re X-rayed.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 16.


A. 28.1.36. (Immediate) Duodenal Ulcer.
Well marked niche.


B. 28.1.36. (1 hour) Duodenal Ulcer.
Well marked niche.

Case number. 17
Date of first attendance at gastric ulcer clinic. 5/2/36
Age. 49 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Engineer**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 7 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 0 |

Clinical Diagnosis. **Gastric ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 0 | 0 | |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 95 %
Gastroscopic examination. **Small shallow ulcer seen confirms Radiological findings.**

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/4/36 | |
| + | | **No ulcer seen** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| **+ 9 lbs.** | | |

| Gastric residuum. | |
|---|---|
| | |

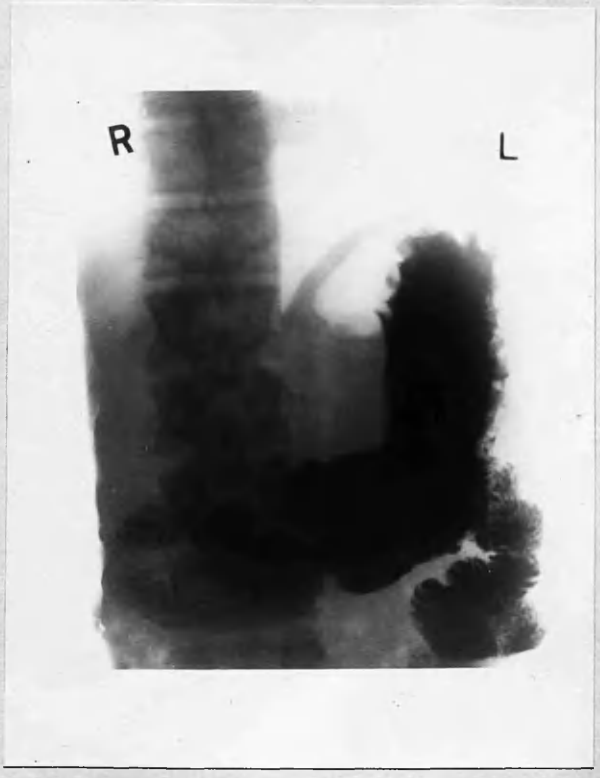
Summary.

**This patient responded well to Diet : Alkali treatment.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 17.


A. 5.2.36. Small ulcer: lesser curve.




B. 20.4.36. No ulcer seen.

Case number. 18
Date of first attendance at gastric ulcer clinic. 6/2/36
Age. 61 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Road Sweeper

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. Years. 1 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | | Not related to food. | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 0 | 0 | 5 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. %
Gastroscopic examination. 17/2/36 Gastroscopy confirms Ulcer of lesser Curvature.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 25/5/36 | |
| + | | No evidence of ulcer | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + | | |

| Gastric residuum. | |
|---|---|
| | |

Summary.

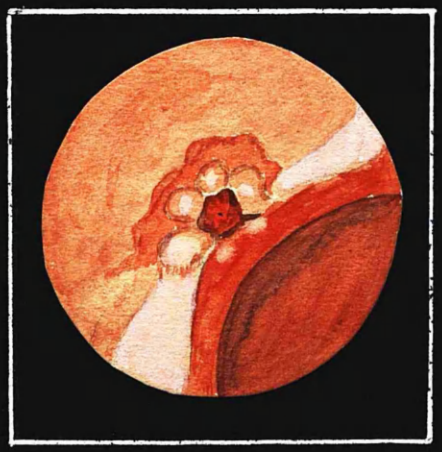
This case responded well to Diet : Alkali treatment.

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 18.


A. 6.2.36. Ulcer: lesser curve.

B. 25.5.36. No ulcer seen.



Case 18. Gastroscopy. 17/2/36.
Shallow ulcer lesser curve, about
14 cms. from pylorus.

Case number. 19
Date of first attendance at gastric ulcer clinic. 6/2/36
Age. 47 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Salesman**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 8 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↓ | + |

Clinical Diagnosis. **Duodenal Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 cc. | 52 cc. | 70 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 80%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 17/8/36 | |
| + | | No evidence of ulcer | |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + | | |

| Gastric residuum. | | |
|---|---|---|
| 70 | 40 | 20 |

Summary.

**Responded well to Diet and Alkalies.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 19.


A. 6.2.36. (Prone). Duodenal Ulcer.


B. 6.7.36. Ulcer still present. deformity of cap.

Case number. 20
Date of first attendance at gastric ulcer clinic. 26/2/36
Age. 58 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Organ-pipe maker**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | - | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. Years. 3 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 0 |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 14 | 0 | 20 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 75 %
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| + | | |

Result.

| Symptoms | | X Ray findings. 20/7/36 | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | **Ulcer not seen** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| **+ 11 lbs.** | | |

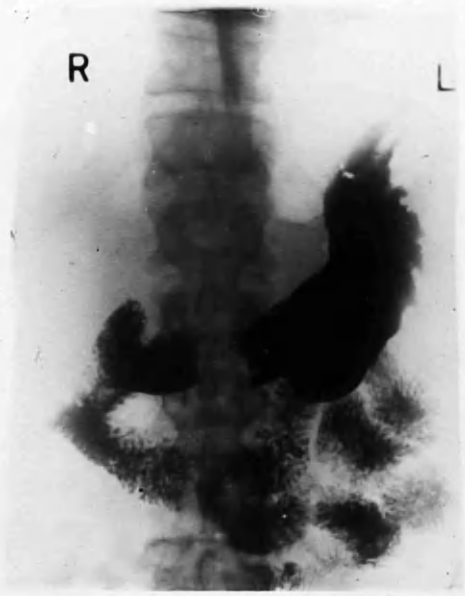
| Gastric residuum. | | |
|---|---|---|
| 40 | 20 | 0 |

Summary.

**This case responded well to Diet and Alkali treatment.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 20.




A. 26.2.36. Ulcer lesser curve.

B. 20.7.36. Ulcer not seen.

# CASES TREATED WITH HISTIDINE

Case number. 21.
Date of first attendance at gastric ulcer clinic. 26/9/35
Age. 34 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Clerk**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. Years. 3 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | + | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ | ? |

Clinical Diagnosis. **Gastric ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 11 cc. | 0 | 30 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 80%
Gastroscopic examination. **Not done**

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 24/10/35 and 14/9/36 | |
| + | | **No ulcer visualised** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| **+ 14 lbs** | **Not done** | **Not done** |

| Gastric residuum. | |
|---|---|
| | |

Summary. **There was a good response to treatment, which was well maintained. Ulcer not visualised radiologically 4 weeks after institution of treatment. 6 months later symptoms recurred - ulcer again visualised and patient had a large Heamatemesis.**
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 21.


A. 26.9.35. Gastric ulcer.


B. 22.10.35. No ulcer visualised.

Case number. 22
Date of first attendance at gastric ulcer clinic. 17/3/36
Age. 37 Years.
Sex. Male. ~~Female.~~ ~~Single.~~ Married.
Occupation. **Plasterer**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 1 Years. 6 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ + ↓ | ? |

Clinical Diagnosis. **Pyloric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 50 cc. | 30 cc. | 77 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 80%
Gastroscopic examination. **Not done initially**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 4/5/36 | |
| | + | I.S.Q. | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| - 4 lbs. | 80% | 11/9/36 Pyloric Ulcer. Overhanging edges |

| Gastric residuum. | Total Acid | Free HCl | Volume |
|---|---|---|---|
| 31/8/36 | 40 cc. | 15 cc. | 50 cc. |

Summary. There was no response to Histidine treatment. In June the patient was put to bed on a Diet : Alkali treatment. Symptoms were only slightly relieved and on 11/9/36 Gastroscopic examination revealed a large Pyloric Ulcer with deep overhanging edges. On 13/9/36 Laporatomy revealed an Inoperable Carcinoma.
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 22.

A. 11.3.36. Pyloric ulcer.

Case number. 23
Date of first attendance at gastric ulcer clinic. 19/3/36
Age. 54 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. Housewife

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | occasional |

Length of History. 5 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 23 lbs |

Clinical Diagnosis. Gastric Ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 10 cc. | 0 | 25 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 75 %
Gastroscopic examination. Not done

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 22/4/36 | |
| | + | Ulcer visualised (smaller) | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 2 lbs | I.S.Q. | Not done |

| Gastric residuum. | |
|---|---|
| | |

Summary. After a complete course of Histidine injections, symptoms were slightly alleviated and Radiological examination revealed a slightly smaller ulcer. Subsequently two further courses of Histidine were given with certain benefit, although 6 months later the ulcer was still visualised radiologically and flatulence and discomfort (after meals are still troublesome.
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 23.


A. 23.3.36. Gastric Ulcer: lesser curve.


B. 22.4.36. Ulcer still seen, but smaller.

Case number. 24.
Date of first attendance at gastric ulcer clinic. 3/3/36
Age. 50 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Painter**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 5 Years. -Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | | Continuous | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 13 cc. | 0 | 40 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. %
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 5/5/36 | |
| | + | Ulcer larger | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| - 1 lb. | 0 | 0 |

| Gastric residuum. | |
|---|---|
| | |

Summary. **Histidine treatment failed and patient was transferred to Diet and Alkalies with much improvement. 6/7/36 Radiological examination - revealed a small healing ulcer.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 24.

A. 3.3.36. Ulcer, lesser curve.

B. 6.7.36. Ulcer still evident, but healing.

Case number. 25.
Date of first attendance at gastric ulcer clinic. 21/1/36
Age. 68 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Lift Attendant**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 9 Years. -Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ↘ ↓ | 0 |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 1 cc. | 0 | 12.5 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 30/3/36 | |
| | + | **Ulcer bigger** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| I.S.Q. | | |

| Gastric residuum. | |
|---|---|
| | |

Summary. **Histidine treatment failed. Transferred to Diet and Alkalies without much success. Admitted to Hospital on 8/6/36 where he improved greatly.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 25.


A. 21.1.36. Gastric Ulcer.

Case number. 26
Date of first attendance at gastric ulcer clinic. 7/1/36
Age. 52 Years.
Sex. Male. ~~Female.~~ ~~Single.~~ Married.
Occupation. **Clerk**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 3 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0. | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ↓ | 0 |

Clinical Diagnosis. **Gastric Ulcer**
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 25 cc. | 0 cc. | 56 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 19/3/36 | |
| + | | Ulcer visualised | 0 |

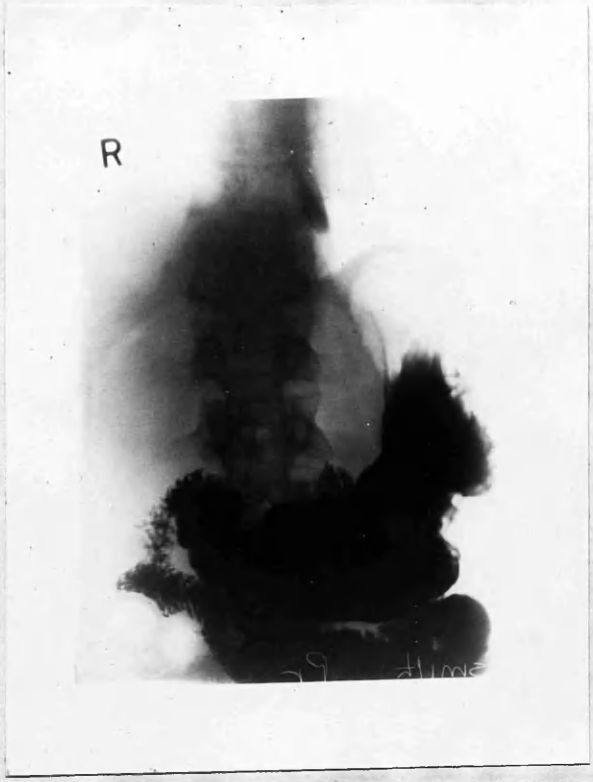
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 5 lbs | | |

| Gastric residuum. | |
|---|---|
| | |

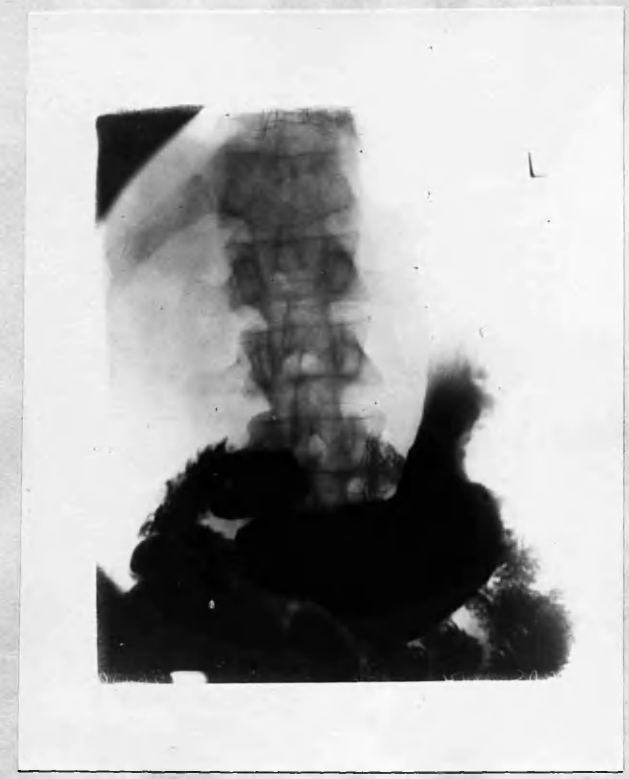
Summary.
**Histidine treatment successful. Patient has now no symptoms and Radiological examination on 6/7/36 revealed no ulcer.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 26.




A. 7.1.36. Ulcer posterior part lesser curve.




B. 6.7.36. No ulcer seen.

Case number. 27
Date of first attendance at gastric ulcer clinic. 30/1/36
Age. 42 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Alternate Night Watchman**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + long intervals | | + | 0 |

Length of History. 13 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 1930 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ↓ | 0 |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 50 cc. | 27 cc. | 160 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 22/3/36 | |
| | + improved | Ulcer seen but ? healing | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 1½ lb. | | |

| Gastric residuum. | |
|---|---|
| | |

Summary. **Histidine treatment improved, but ulcer was still seen on Radiological examination. Patient was transferred to Diet and Alkalies with complete alleviation of symptoms and negative radiological findings.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 27.

A. 30.1.36. Gastric Ulcer.

B. 3.7.36. No ulcer seen.

Case number. 28
Date of first attendance at gastric ulcer clinic. 3/1/36
Age. 49 Years.
Sex. ~~Male.~~ Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 6 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + (occasional) | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 24 cc. | 0 | 15 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 21/4/36 | |
| + | | Ulcer visualised (smaller) | 0 |

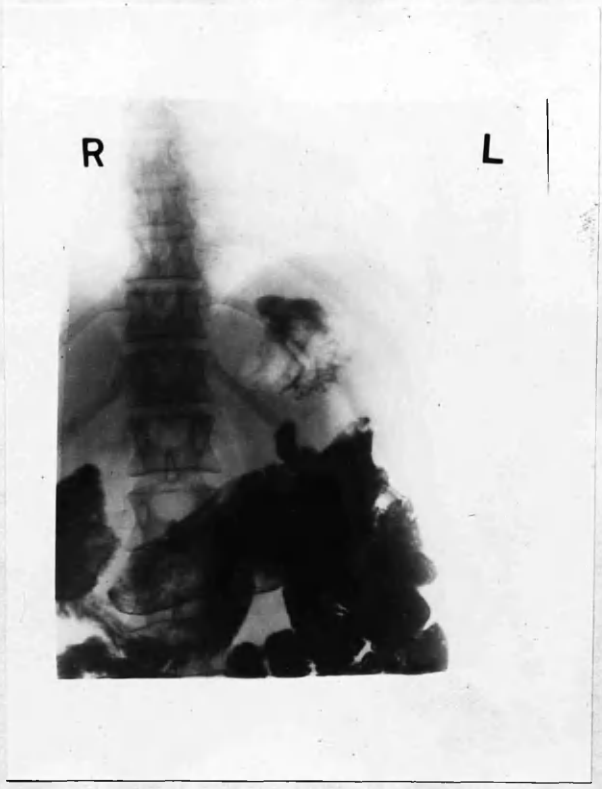
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| | | 3/1/36. Hour glass stomach: large concealed ulcer crater |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 20 cc. | 10 cc. | 20 cc. |

Summary. Histidine **treatment relieved symptoms : but ulcer was still visualised radiologically on 21/4/36. A further course of 10 injections was given with good result and on 5/10/36 no ulcer was seen on X-ray, although there was well marked spasm.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 28.




A. 3.1.36. Film taken in supine position. Shows Barium-filled crater, isolated from stomach.


B. 21.4.36. Ulcer still present but smaller. Spasm persists.

Case number. 29
Date of first attendance at gastric ulcer clinic. 27/2/36
Age. 39 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Fireman**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. 15 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | + ½ hr | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | + 21 lbs |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 20 cc. | 0 | 20 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 82% on 15/3/36.
Gastroscopic examination. **Shallow ulcer, lesser curvature at antrum.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| | + | 15/4/36 ulcer still visualised. | 0 |

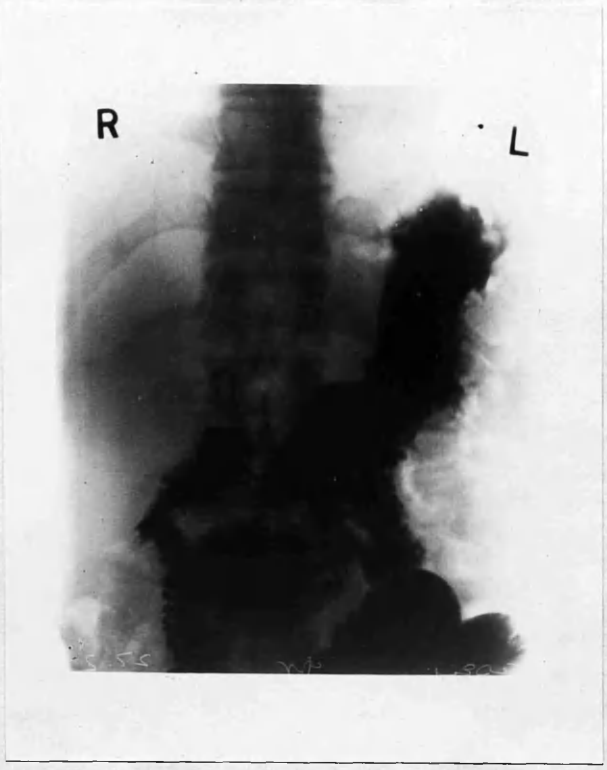
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| | 82% | 0 |

| Gastric residuum. | |
|---|---|
| 0 | |

Summary. **Histidine treatment alleviated symptoms, but the ulcer was still present on screening on 15/4/36. On 11/5/36 there was a return of symptoms and the patient was put on bed-rest, diet and alkalies with much improvement.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 29.




A. 27.2.36. Small ulcer lesser curve.

B. 15.4.36. Ulcer not well seen but localised on screening.

Case number. 30
Date of first attendance at gastric ulcer clinic. 19/12/35
Age. 51 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Variety Artist**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 20 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1 hr | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ | + |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 25 | 15 | 50 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 85%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | 2/4/36. No sign of ulcer | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 2 stones | 100% | Normal |

| Gastric residuum. |
|---|
| Normal |

Summary. **Histidine treatment very successful. In October 1936 the patient was well and working and had had no recurrence of symptoms.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 30.


A. 19.12.35. Large ulcer crater, posterior part lesser curve.


B. 2.4.36. No ulcer seen.

Case number. 31
Date of first attendance at gastric ulcer clinic. 8/4/36
Age. 42 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. Housewife

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. 0 Years. 1 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | . | 1 hr | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↓ | + |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 26 | 16 | 50 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 58%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | 13/7/36 Ulcer not seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 8 lbs. | 76% | 0 |

| Gastric residuum. | |
|---|---|
| | |

Summary.

**Histidine treatment successful. No radiological or other evidence of ulcer now.**

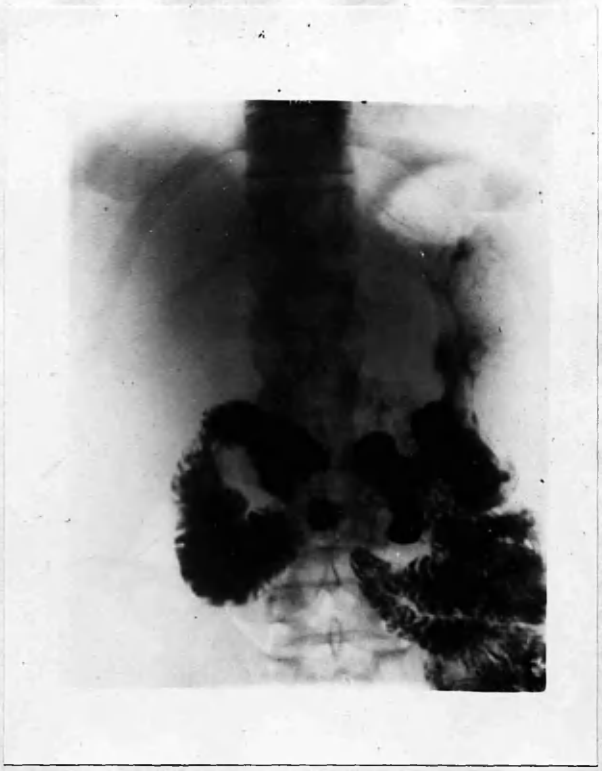
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 31.

A. 8.4.36. Erect. Ulcer lesser curve.


B. 8.4.36. Prone. Ulcer lesser curve, lying detached.

CASE 31.



C. 22.7.36. No ulcer seen.

Case number. 32
Date of first attendance at gastric ulcer clinic. 28/3/36
Age. 27 Years.
Sex. Male. ~~Female~~. Single. ~~Married~~.
Occupation. Salesman
Collector

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 1 Years. 0 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2-3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | + | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ↓ | + |

Clinical Diagnosis. Duodenal Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | 0 | delayed |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 24 | 0 | 42 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 72 %
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | Pylorospasm | |
| | + | 20/7/36 Ulcer still present | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 4 lbs. | 80% | 0 |

| Gastric residuum. | |
|---|---|
| 0 | |

Summary. Histidine treatment not successful - patient still had severe pain and very severe flatulence after his course of treatment. He later showed a good response to other treatment.

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 32.

A. 28.3.36. Duodenal Ulcer.

B. 20.7.36. Showing deformity of duodenal cap.
Ulcer still present.

Case number. 33.
Date of first attendance at gastric ulcer clinic. 8/4/36
Age. 44 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Newspaper Roundsman

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. Years. 1 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | continuous | | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. Gastric ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | delayed |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 62 | 0 | 47 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 47%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 26/7/36 | |
| | + | Ulcer still present | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| Same | 55% | 0 |

| Gastric residuum. | |
|---|---|
| T.A. 18 Free HCl 0 | |

Summary.
**Histidine treatment unsuccessful. This was a case of Witt's Anaemia, and only responded after a course of massive doses of iron.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 33.

A. 8.4.36. Ulcer lesser curvature.


B. 28.8.36. Ulcer healed after course of iron.

Case number. 34
Date of first attendance at gastric ulcer clinic. 29/4/36
Age. 66 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Fitter**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 20 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. **Gastric ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 30 | 10 | 20 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 82 %
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. 20/8/36 | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | Ulcer much smaller | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 4 lbs | 88% | 0 |

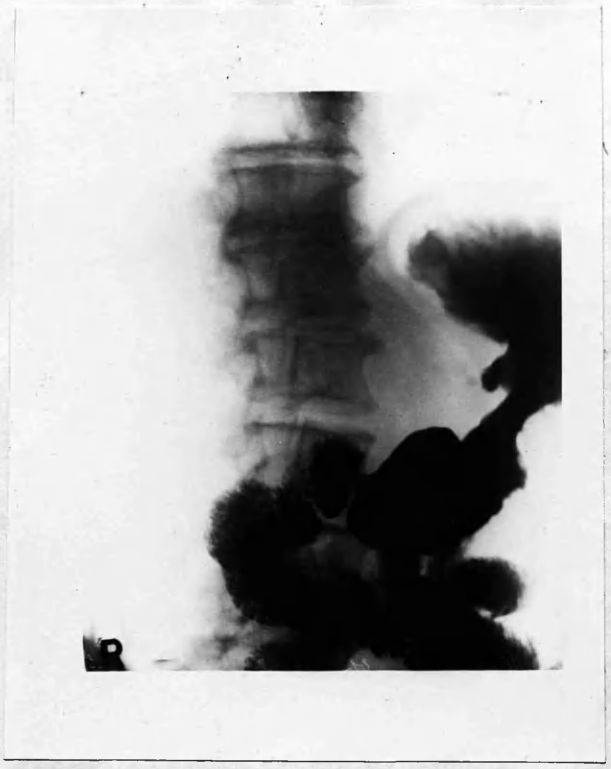
| Gastric residuum. | |
|---|---|
| T.A. 13 Free HCl 0 | |

Summary.

**Histidine relieved symptoms but the ulcer remained present although smaller radiologically.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 34.




A. 29.4.36. Deep ulcer. lesser curve.
Spasm of greater curve.


B. 20.8.36. Ulcer much smaller.

Case number. 35
Date of first attendance at gastric ulcer clinic. 26/4/36
Age. 48 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Motor Driver**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 6 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | + | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↓ ↑ | 28 lbs. lost in 1 year |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | **delayed** |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 | 24 | 50 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 70%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 28/8/36 | |
| + | | **No evidence of ulcer** | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 15 lbs | 100% | 0 |

| Gastric residuum. | |
|---|---|
| **Normal** | |

Summary.

**Histidine treatment successful both symptomatically and radiologically.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 35.

A. 26.4.36. Ulcer posterior part lesser curve.


B. 28.8.36. No evidence of ulcer.

Case number. 36
Date of first attendance at gastric ulcer clinic. 1/5/36
Age. 40 Years.
Sex. Male. ~~Female.~~ ~~Single~~. Married.
Occupation. **Milk Roundsman**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. 4 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 21 lbs |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 60 | 20 | 60 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | |

Hemoglobin estimation. 84 %
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 1/7/36 | |
| | + | ulcer still present | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 5 lbs. | 84% | 0 |

| Gastric residuum. | |
|---|---|
| No free HCl | |

Summary.
**Histidine treatment not successful. Diet and Alkalies have been prescribed with better results. 7/9/36 "No evidence of ulcer".**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 36.

A. 1.5.36. Gastric ulcer posterior part lesser curve.

Case number. 37
Date of first attendance at gastric ulcer clinic. 11/3/36
Age. 38 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Clerk

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. 17 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | continuous | | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ ↑ | + |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 1 | 0 | 20 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 76%
Gastroscopic examination. 0

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 10/6/36 | |
| | + | small crater on screening | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| I.S.Q. | 78% | 0 |

| Gastric residuum. | |
|---|---|
| T.A.20 Free HCl 10 | |

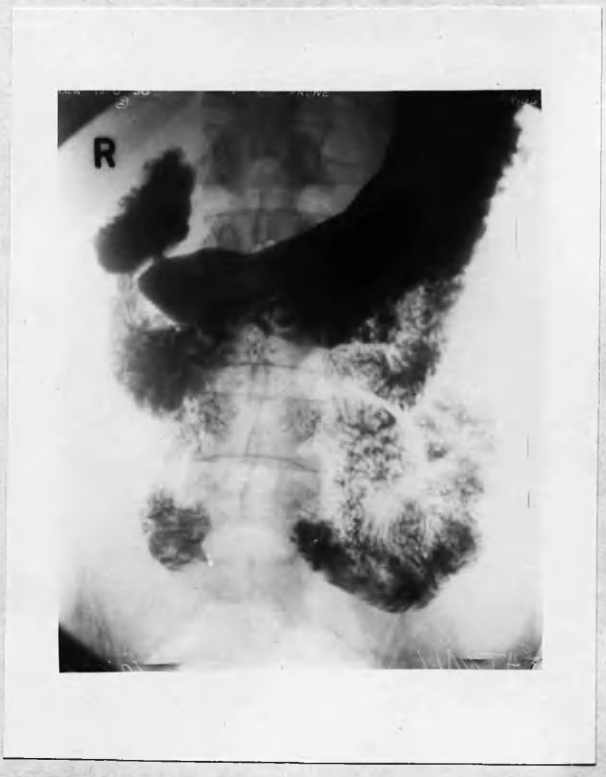
Summary.

**Histidine treatment gave very little relief. A second course of treatment was equally unsuccessful.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 37.


A. 11.3.36. Gastric ulcer lesser curve below cardiac orifice.




B. 10.6.36. Ulcer not well seen, but present on screening.

Case number. 38
Date of first attendance at gastric ulcer clinic. 7/2/36
Age. 52 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Clerk

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 8 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | + |

Clinical Diagnosis. Gastric ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 25 | 2 | 30 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 85%
Gastroscopic examination. 0

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 7/4/36 | |
| + | | Ulcer still present but healing | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| 10 lbs increase | 85% | 0 |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 28 cc. | 14 cc. | 30 cc. |

Summary.
**The first course of Histidine treatment gave no relief. Thereafter a further course combined with diet 4 and alkalies gave a satisfactory result.**

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 38.

A. 7.2.36. Ulcer posterior part lesser curve.

B. 7.4.36. Ulcer present, but healing.

Case number. 39
Date of first attendance at gastric ulcer clinic. 6/2/36
Age. 35 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Labourer

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | + |

Length of History. Years. 4 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3hrs | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | 21 lbs. |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 | 50 | 50 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 78%
Gastroscopic examination. After two months' medical treatment. Large ulcer, yellow base. Oedema. One haemorrhagic area pylorus seen. Normal action.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 30/3/36 | |
| | + | Ulcer I.S.Q. | 0 |

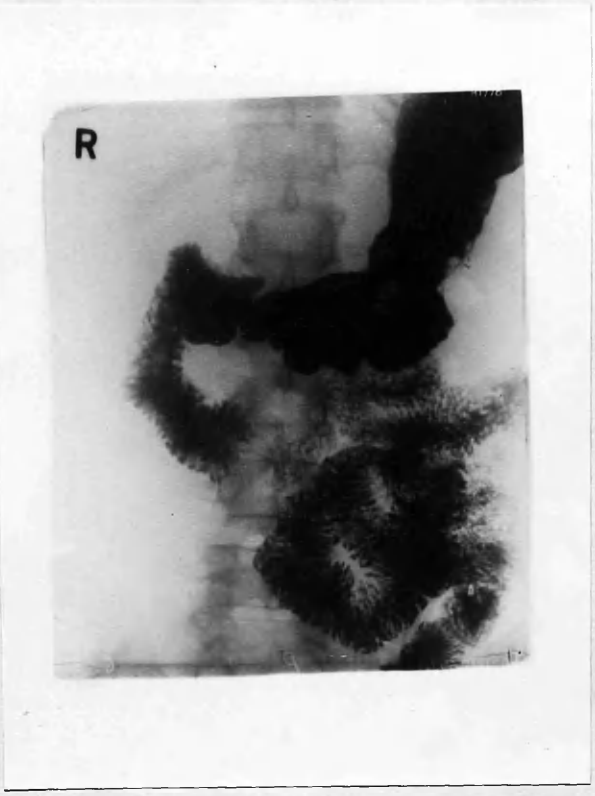
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 4 lbs. | 80% | 6/4/36 Ulcer seen |

| Gastric residuum. | |
|---|---|
| Hyperchlorhydria | |

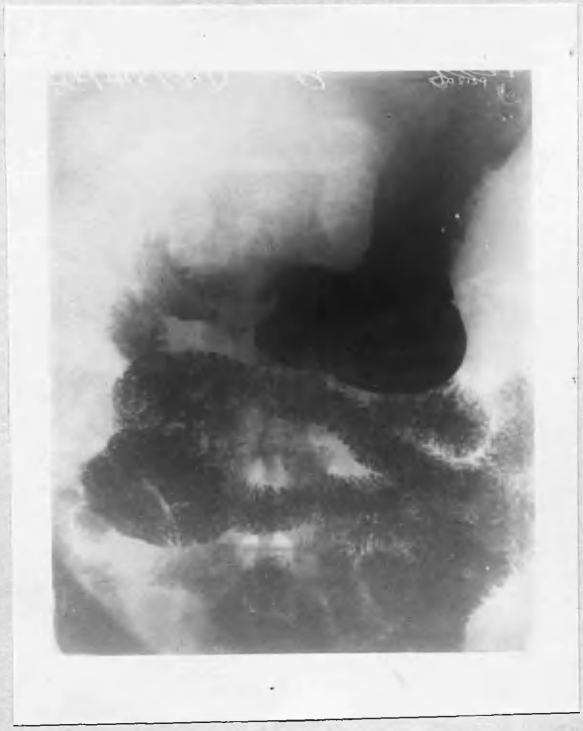
Summary. Histidine treatment unsuccessful. Afterwards admitted to hospital on 27/4/36 for prolonged medical treatment, which proved successful. He now has no symptoms and his X-ray is normal.

Reproductions of radiological (and gastroscopic) examination are given on the following page.

CASE 39.




A. 6.2.36. Large Ulcer lesser curve.



B. 9.6.36. Healed ulcer after in-patient treatment.

Case 89. Gastroscopy. 6/4/36.
Large ulcer. Yellow base. Oedema.
One haemorrhagic area seen. Pylorus
seen. Normal action.

Case number. 40
Date of first attendance at gastric ulcer clinic. 3/1/36
Age. 55 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Clerk

| Sedentary. | Light. | Heavy. |
|---|---|---|
| + | | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. Years. 5 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1 hr | + | |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 24 | 10 | 30 |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 96%
Gastroscopic examination. Active ulcer of the stomach situated on the lesser curvature of the antrum. Co-existent catarrhal gastritis. Mucosa intensely reddened and swollen: rugae almost obliterated. A few small erosions seen on left pillar of antrum.
AFTER TREATMENT. Short period of symptoms. No previous gastric history.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag. Trisilicate |
|---|---|---|
| | + | |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/5/36 | |
| + | | No ulcer seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 6 lbs | 106% | |

| Gastric residuum. | |
|---|---|
| Normal | |

Summary.
**Histidine treatment successful after previous failure with diet and alkalies.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 40.

A. 3.1.36. Ulcer, lesser curve.

B. 20.5.36. No ulcer seen.

# CASES TREATED WITH MAGNESIUM TRISILICATE

Case number. 41
Date of first attendance at gastric ulcer clinic. 8/4/36
Age. 70 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. Housewife

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | + |

Length of History. Years. 2 Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | 0 | + |

Clinical Diagnosis. Gastric Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 17.5 cc. | 4 cc. | 25 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. 60 %
Gastroscopic examination. Not done

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag. Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 17/8/36 | |
| + | | No evidence of G.U. | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs. | | |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| 19/10/36 | 40 cc. | 20 cc. | 25 cc. |

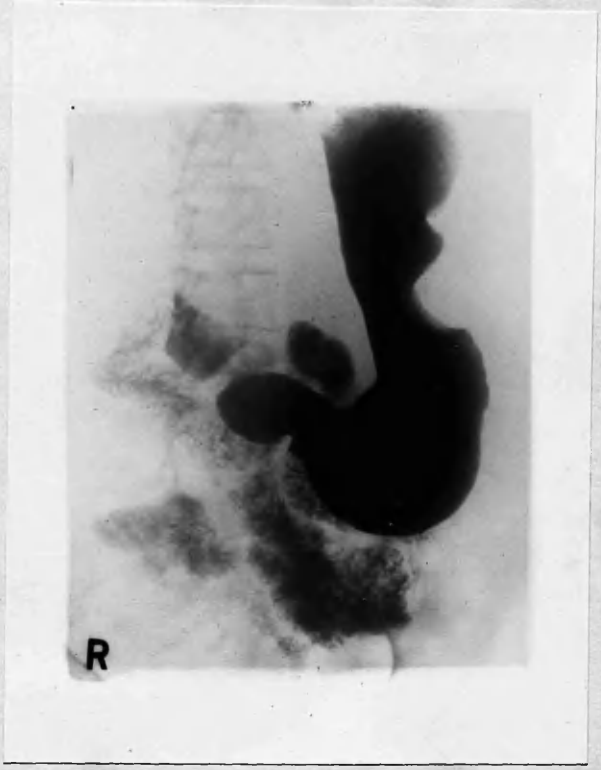
Summary.

**This case responded excellently to Mag. Trisilicate.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 41.


A. 8.4.36. Large ulcer lesser curvature.




B. 17.8.36. No ulcer seen.

Case number. 42
Date of first attendance at gastric ulcer clinic. 21/4/36
Age. 49 Years.
Sex. ~~Male.~~ Female. ~~Single.~~ Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 5 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1hr | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | + | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ → ↓ | + |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 4 cc. | 0 | 25 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 50%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 14/9/36 | |
| + | | Ulcer healing: Spasm at incisura | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 8 lbs. | 64% | |

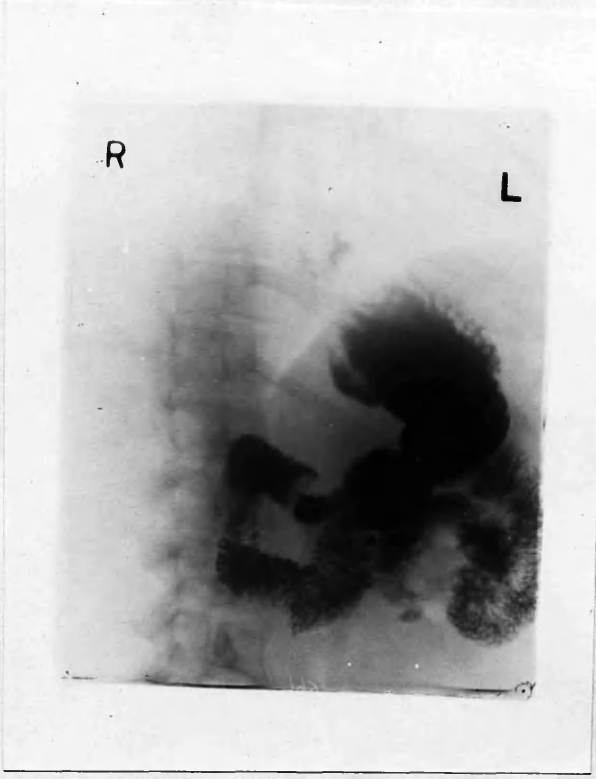
| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 8 cc. | 0 | 20 cc. |

Summary.

**This case responded to Mag. Trisilicate, in conjunction with massive doses of Iron.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 42.




A. 21.4.36. Large gastric ulcer, lesser curve.

B. 14.9.36. Ulcer healing.

Case number. 43
Date of first attendance at gastric ulcer clinic. 25/2/36
Age. 48 Years.
Sex. ~~Male~~. Female. ~~Single~~. Married.
Occupation. **Housewife**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | 0 | 0 |

Length of History. 13 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | Not related | | | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | + on 4 occasions | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↕ | |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hrs. |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 43.5 cc | 7 cc. | 25 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | + | |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. 2/7/36 | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | Small erosion still present | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + | | |

| Gastric residuum. | |
|---|---|
| | |

Summary.

**This case responded well to Mag. Trisilicate.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 43.

A. 25.2.36. Small ulcer, upper part lesser curve.

B. 2.7.36. ? Small erosion still present.

Case number. 44
Date of first attendance at gastric ulcer clinic. 2/5/36
Age. 47 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Tailor's Trimmer.**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | | |

Length of History. 4 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 2 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ | + |

Clinical Diagnosis.
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 cc. | 52 cc. | 50 cc. |
| Achlorhydria. | Hypochlor. | Hyperchlor. |
| | | |

Hemoglobin estimation. %
Gastroscopic examination. **Gastric Ulcer at incision, healed ulcer above.**

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | |

Result.

| Symptoms | | X Ray findings. 9/9/36 | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | No ulcer seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 5 lbs | | |

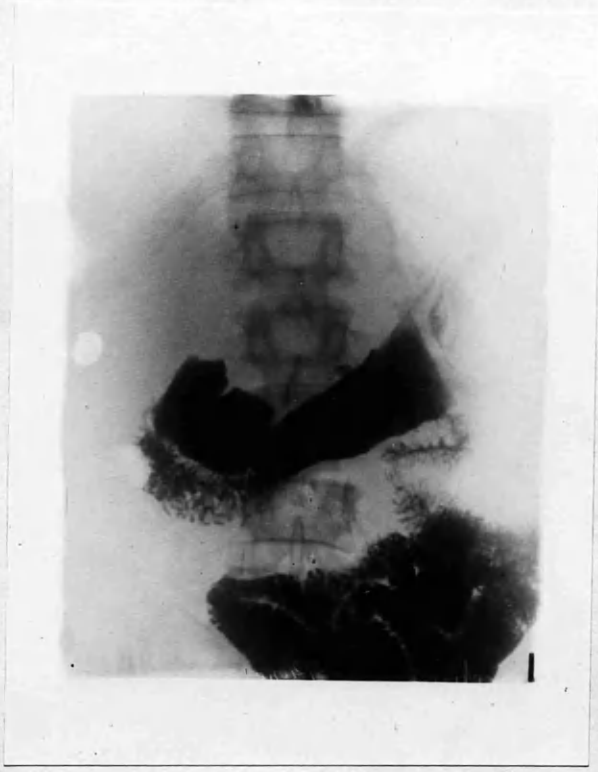
| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 50 cc. | 30 cc. | 30 cc. |

Summary.

**This patient showed a good response to Mag. Trisilicate.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 44.



A. 2.5.36. Gastric ulcer lesser curve.

Case number. 45
Date of first attendance at gastric ulcer clinic. 13/5/36
Age. 35 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. General Porter

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. 2 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1 hr | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | 0 | + |

Clinical Diagnosis. Duodenal Ulcer

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 67 cc. | 50 cc. | 60 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 70%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag. Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 13/7/36 | |
| + | | Ulcer not Demonstrated | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs | | |

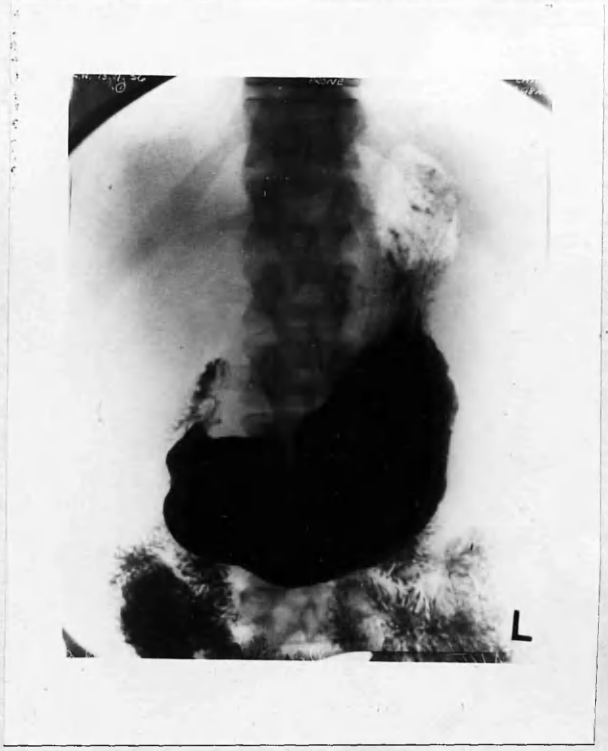
| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 48cc. | 25 cc. | 40 cc. |

Summary.

**This case responded well to Mag. Trisilicate.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 45.




A. 13.5.36. Duodenal Ulcer, crater not demonstrated.

Case number. 46
Date of first attendance at gastric ulcer clinic. 8/5/36
Age. 37 Years.
Sex. Male. ~~Female~~. Single. ~~Married~~.
Occupation. Shop Assistant

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 3 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 1 hr | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | + |

Clinical Diagnosis. Duodenal Ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 85 cc | 65 cc. | 60 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. %
Gastroscopic examination.

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 5/10/36 | |
| 0 | | Duodenal deformity persists | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| 0 | | |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 80 cc | 70 cc. | 50 cc. |

Summary.

**This case showed no improvement whatever on Trisilicate treatment.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 46.

A. 8.5.36. Duodenal ulcer: deformity of cap.

Case number. 47
Date of first attendance at gastric ulcer clinic. 16/5/36
Age. 48 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Sheet Metal Worker**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | | + |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | + |

Length of History. 10 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ | + (14 lbs) |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 3 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 16 cc. | 0 cc. | 30 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 75%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 8/10/36 | |
| + | | Crater still seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs. | | |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 20 cc. | 4 cc. | 20 cc. |

Summary.

**This case was much improved by Trisilicate treatment but Radiological evidence of Ulcer persisted and the patient still had slight pain.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 47.


A. 16.2.36. Gastric ulcer lesser curve.


B. 8.10.36. Crater still seen.

Case number. 48
Date of first attendance at gastric ulcer clinic. 29/5/36
Age. 27 Years.
Sex. Male. ~~Female~~. Single. ~~Married~~.
Occupation. **Salesman Collector**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 1 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | + | + |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| + | + ↑ ~ ↓ | + (6 lbs.) |

Clinical Diagnosis. **Duodenal Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | 6 hours |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 24 cc | 0 | 20 cc |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| + | | |

Hemoglobin estimation. 100%
Gastroscopic examination.

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | + | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 17/9/36 | |
| | + | Ulcer still present (Pylorospasm) | 0 |

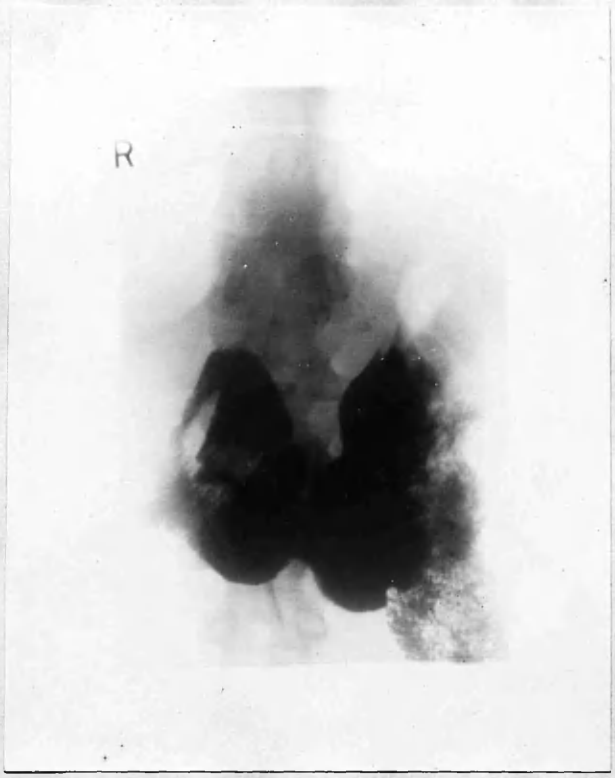
| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| 0 | | |

| Gastric residuum. | |
|---|---|
| | |

Summary. **This patient failed to respond to Histidine treatment and was transferred to Trisilicate. There was a slight improvement which was not maintained, and patient was then treated by bed rest : diet and alkalies with good results.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 48.




A. 29.5.36. Duodenal Ulcer.

B. 17.9.36. Ulcer still present.

Case number. 49
Date of first attendance at gastric ulcer clinic. 30/5/36
Age. 38 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. Gas Tester

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| + | | + | 0 |

Length of History. 15 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | 3 hrs | 0 | + |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| + | + | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↑ | 0 |

Clinical Diagnosis. Duodenal Ulcer
X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| + | | |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 cc. | 60 cc. | 30 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. 103%
Gastroscopic examination.

AFTER TREATMENT.
Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | | |
| + | | | |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 4 lbs. | | |

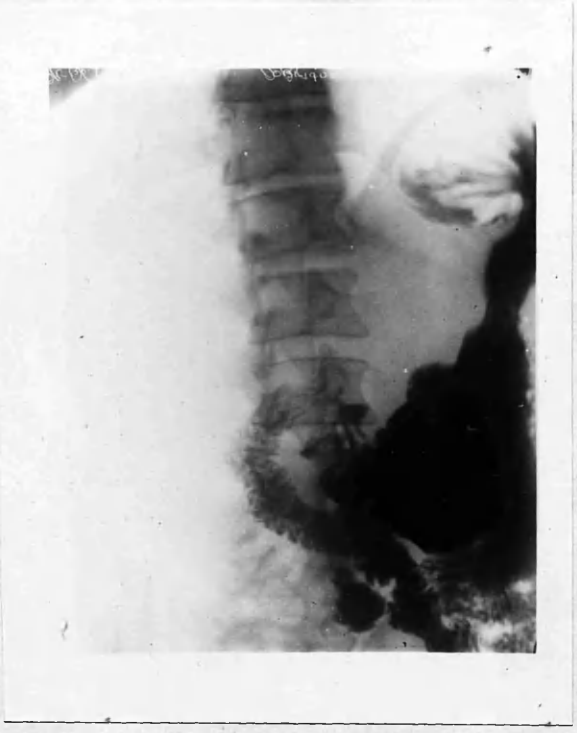
| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 50 cc. | 30 cc. | 20 cc. |

Summary.

**This patient showed a good response to Mag. Trisilicate.**

Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 49.



A. 30.5.36. (Erect) Duodenal Ulcer.

B. 30.5.36. (Prone) Duodenal Ulcer.

Case number. 50
Date of first attendance at gastric ulcer clinic. 3/3/36
Age. 39 Years.
Sex. Male. ~~Female~~. ~~Single~~. Married.
Occupation. **Hairdresser**

| Sedentary. | Light. | Heavy. |
|---|---|---|
| | + | |

Diet and habits.

| Meals. | | Tobacco. | Alcohol |
|---|---|---|---|
| Regular. | Irregular. | | |
| | + | + | 0 |

Length of History. 2 Years. Months.

Chief Symptoms.

| Pain. | AC. | PC. | Worse after meals. | Relieved by food |
|---|---|---|---|---|
| + | | ½ hr | + | 0 |

| Nausea. | Vomiting. | Heamatemesis. | Occult blood. |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| Constipation. | Flatulence. | Loss of weight. |
|---|---|---|
| 0 | + ↓ | 0 |

Clinical Diagnosis. **Gastric Ulcer**

X Ray findings. (before treatment)

| Duodenal Ulcer. | Gastric Ulcer. | Emptying time. |
|---|---|---|
| | + | 2 hrs. |

Gastric residuum. (fasting)

| Total acid. | Free HCl. | Volume. |
|---|---|---|
| 70 cc. | 50 cc. | 30 cc. |

| Achlorhydria. | Hypochlor. | Hyperchlor. |
|---|---|---|
| | | + |

Hemoglobin estimation. %
Gastroscopic examination. **Gastroscopy confirmed X Ray findings.**

AFTER TREATMENT.

Treatment adopted.

| Diet and alkalis. | Histidine. | Mag.Trisilicate |
|---|---|---|
| | | + |

Result.

| Symptoms | | X Ray findings. | Occult blood |
|---|---|---|---|
| Absent. | Present. | 20/7/36 | |
| + | | No ulcer seen | 0 |

| Weight | Hb. | Gastroscopic examn. |
|---|---|---|
| + 7 lbs. | | |

| Gastric residuum. | T.A. | Free HCl | Volume |
|---|---|---|---|
| | 44 cc. | 25 cc. | 30 cc. |

Summary. **This patient responded well to Mag. Trisilicate. Previously he had a course of diet and alkalies with a fairly good result, but the ulcer was still demonstrable radiologically and flatulence was very distressing.**
Reproductions of radiological (~~and gastroscopic~~) examination are given on the following page.

CASE 50.


A. 3.3.36. GASTRIC ULCER.


B. 20.7.36. NO ULCER SEEN.

# CASE ANALYSIS

CASE ANALYSIS.

I. General Analysis.

In this series of 50 cases of Peptic Ulcer, there was a large preponderance of Gastric Ulcers, namely, 39 (78%) while only 10 (20%) were Duodenal Ulcers; 1 (2%) was of pyloric origin. Of the 39 gastric ulcers, 26 (66.6%) were situated on the lesser curvature of the stomach.

There were 38 (76%) males, and only 12 (24%) females. The average age was 44.7 years. This corroborates the average age incidence given by Hurst [2] as 45 years. The average duration of symptoms of dyspepsia was 5.7 years.

9 (18%) of the patients did sedentary work; 28 (56%) were employed in light work, while 13 (26%) were engaged in heavy occupations.

In 24 (48%) of the cases there had been great irregularity of meals; 41 (82%) of the patients smoked, and 26 (52%) took alcohol. In 24 (48%) cases there was a combination of irregular and inadequate meals, with heavy smoking and the regular consumption of alcohol;

the majority of these patients were engaged in heavy occupations. In 10 (20%) cases general nervousness or emotional instability was a marked feature. In the remaining 16 (32%) cases there was no definite factor to suggest the cause of ulcer formation, but 3 (6%) had severe hypochromic anaemias; 4 (8%) had extensive oral sepsis (many of the other cases exhibited lesser degrees of oral sepsis) and only 1 (2%) cases exhibited hyperchlorhydria as the sole discoverable factor which might lead to the production of gastric ulceration.

In only 1 (2%) case was there absence of pain, while in 5 (10%) cases was pain unrelated to food. In 4 (8%) cases pain was constantly present. The average onset of pain was 2 hours after meals. In 30 (60%) cases flatulence was a prominent symptom, while haematemesis or melaena only occurred in 8 (16%) cases.

Up to this point the features exhibited by this series of cases confirms largely the findings of other workers. The same cannot be said of hyperchlorhydria.

Achlorhydria was present in 22 (44%) of the cases .....an abnormally high percentage, compared with the

findings of others. This was found, not only upon initial examination of the gastric residuum, but on subsequent occasions. In only 12 (24%) cases was hyperchlorhydria present, while in the remaining 16 (32%) cases, 10 (20%) were within normal limits of acidity, and 6 (12%) were definitely hypochlorhydric. These results are at considerable variance with those of Davis [3] who, in a series of 186 cases, mostly women, found 60% were hyperchlorhydric, 39% were normal and only 1% showed achlorhydria.

At King's College Hospital, the Biochemical staff, performing gastric analyses on in-patients with proven ulcers, have consistently found a fairly high percentage of cases of achlorhydria. Two points arise in this connection, namely, the ease with which nervous patients may have their secretion of hydrochloric acid influenced, and the fact that Apperly [17] has found every variation in gastric acidity in apparently normal individuals.

It is of interest to note that in 12 cases of hyperchlorhydria, 8 (66.6%) subsequently became normal on treatment, while 4 (33.3%) remained hyperchlorhydric. All of the 8 cases whose acidity became normal responded

in every way to treatment, and showed radiological evidence of healing. Of the four cases which remained hyperchlorhydric, one subsequently perforated, one relapsed after temporary improvement, one had to be admitted to the wards for prolonged in-patient treatment, and one showed no improvement whatsoever.

20, (40%) of the cases in the series were treated with Diet and Alkalies, (see page 76 ) Of these 15 (75%) were successful with complete absence of symptoms and radiological evidence of healing. Of the 20 (40%) cases treated with Histidine (see page 121) and modified dietetic restrictions, only 7 (35%) showed evidence of healing. Of the 10 (20%) cases treated with Magnesium Trisilicate, (see page 163) 7, (70%) became symptom free and showed radiological evidence of healing. A fuller analysis of the comparisons of these methods of treatment will be dealt with in the following section.

II. Analysis of the Methods of Treatment.

Part of the purpose of the present work has been to endeavour to evaluate the comparative merits of the older and newer methods of medical treatment of peptic ulcer. It has been decided to adopt as the standard with which to compare the others, the method of treatment described as "Diet and Alkalies" since it has been widely used for many years by various workers. It is obviously difficult to assess a true expected percentage of success since no two workers quote the same figure. Two accepted authorities state that over 90% of successes may be expected, where treatment is fully carried out. I consider that I cannot adopt a fairer standard than my own, since, not only is the percentage of success in the present series below the average, but also the cases in each group are comparable as regards age and sex incidence, and as regards duration of symptoms and treatment, in fact the groups may be regarded as wholly unselected.

Let those cases treated with Diet and Alkalies constitute GROUP "A"
Let those cases treated with Histidine constitute GROUP "B"
Let those cases treated with Magnesium Trisilicate constitute GROUP "C"

Adopting GROUP "A" as the standard, it is then possible to compute the values of treatments "B" and "C".

THE VALUE OF HISTIDINE COMPARED WITH DIET AND ALKALIS.

Group A consisted of 20 cases. Treatment was successful in 75%
Group B consisted of 20 cases. Treatment was successful in 35%
Difference in % successes.....40%

Let p = mean % of A and B.
Let q = 100-p
Let Na = number of cases in group A.
Let Nb = number of cases in group B.
The standard error of the difference in percentages may then be calculated from the formula.

$$SE = \sqrt{pq\ (\ 1/Na + 1/Nb}$$

$$= \sqrt{45 \times 55\ (\ 1/20 + 1/20}$$

$$= \sqrt{247.5}$$

$$= 15.732$$

But the ratio of the difference in percentages to the Standard Error of the difference is:-

40/15.732.

= 2.54.

It is thus seen that the difference in percentages is greater than twice the Standard error of the difference, and so may be regarded as statistically significant.

THE VALUE OF THE MAGNESIUM TRISILICATE COMPARED WITH DIET AND ALKALIES.

Group A consisted of 20 cases. Treatment was successful in 75%
Group C consisted of 10 cases. Treatment was successful in 70%
Difference in % successes.....5%

$$SE = \sqrt{pq\left(1/Na + 1/Nc\right)}$$

$$= \sqrt{26.67 \times 73.33\left(1/20 + 1/10\right)}$$

= 17.13

But the ratio of the difference in percentages to the Standard Error of the difference is:-

5/17.43

= .2919.

It is thus seen that the difference in percentage is less than twice the standard error of the difference, and so it is not possible to regard it as statistically significant.

Diet and Alkalies as a form of treatment, can thus be claimed to be significantly superior to Histidine. Magnesium Trisilicate, on the other hand has no advantage over Diet and Alkalies, nor does it appear at a disadvantage. Its true place in order of merit will only be manifest when sufficient cases have been obtained to allow of a statistical comparison with other methods of treatment. Its advantages as a simple method of treatment warrant the continuance of its trial.

# CONCLUSIONS.

CONCLUSIONS.

Peptic Ulcer presents a manifold problem which affects an ever increasing proportion of the population during the most active and productive years of life. As yet, no single factor can be cited as the cause. It has been clearly demonstrated that this is no simple condition, but it is a local manifestation of a number of the factors, including individual susceptibility associated with environment, occupation, mode of living and "diathesis."

Any form of treatment which is to be directed towards the cure of Peptic Ulcer, must, at the moment, of necessity include suitable dietetic restrictions compatible with the patient's social status, combined with the elimination of excesses in alcohol, tobacco and muscular exertion, and especially is it necessary to secure for the sufferer, freedom from mental and emotional overstrain.

The clinic at King's College Hospital has been directed to the establishment of a centre for the early diagnosis and treatment of Peptic Ulcer along recognised lines, care being had to individual requirements, the social conditions and occupational demands of the

individual patient. The clinic also provides material for the closer study of those problems in peptic ulcer which as yet await solution. It remains to be seen what permanent measure of success will follow this newer approach to the problem as a whole.

At present it would appear reasonable to assert that, so far, no more successful form of medical treatment has been devised than the accepted measures of rest, dietetic restriction and alkalies.

Histidine thereapy has not proved notably successful either in the present series of cases, or in the experience of the clinic as a whole. True it is that certain cases have had a striking remission of symptoms after a single course of injections, only to be followed by an early relapse, with symptomatic and radiological evidence of ulcer. On the other hand some cases have shown a rapid response to this form of therapy and appear to have fulfilled the criteria of cure. Time alone will tell of the permanency of the benefit obtained. Other workers, notably Smith [33] Bulmer, [34] Hessel [35] Eads [30] and Raffsky [36] claim greater measures of success, but in some of these instances the use of histidine has been combined with

rest, dietetic and other restrictions. The day may come when it will be possible to select the type of case in which histidine treatment is warranted, but as yet, we have no clear guide as to which is the case in which we may expect the dramatic results which are sometimes obtained.

Magnesium trisilicate is the most recent pretender to a place in the therapeutics of peptic ulcer. The present series is not large enough to allow of a conclusive decision as to its merits, but there is suggestive evidence that this form of treatment may result in a high percentage of success. Its advantages over the former irksome methods have been alluded to in the text. At the time of writing, the only other published series of cases, equally small, treated with Magnesium Trisilicate, is by Mutch [32] in whose hands the treatment gave most gratifying results.

My experience has been that no other form of treatment has as yet been evolved to justify an irrefutable claim to superiority over the more established methods. Nevertheless, it seems possible that with increasing knowledge of the condition known as peptic ulcer, a method will be obtained, which in certain cases at all events, will prove less irksome

and prolonged, and even more effective than any as yet in use. Such an ideal should stimulate further research into this problem which affects too great a number of our fellow men.

December 1936.

REEERENCES.

REFERENCES.


1. BRINTON "Disease of the Stomach" 1864. 2nd Ed. p.1133.

2. HURST "A Textbook of the Practice of Medicine" Ed. by F. W. Price. 4th Edn. Oxford Publication. 1934. p.583.

3. DAVIS "Some Observations on Peptic Ulcer". Lancet. 1936. CCXXX. p.521 & 528.

4. ROSENOW Journal of Infectious Disease. 1923.

5. NAKAMURA "Study on Focal Infection." Ann. Surgery. 1924. LXXIX. p.29.

6. BOLTON "Ulcer of the Stomach" Pub. London. 1913.

7. LOEB & REHFUSS "Diseases of Stomach" Pub. Saunders. Philadelphia & London. 1927. p.583.

8. DECKER Berlin klin Woch. 1887. XXIV. p.369.

9. HEISER Med. Klin. 1922. XVIII. 1025.

10. von SOHLERN Berlin klin Woch. 1888 XIII. p.273.

11. BERGSMA Arch. Internal Med. 1931. XLVII. p.144.

12. ROKITANSKY "Handbuch der Path. Anat." 1841. p.1846.

13. BROWN-SÉQUARD. Progrés Méd. 1876. IV. p.136.

14. CUSHING. Surg. Gyn. & Obstet. 1932. LV. p.1.

15. BEATTIE. Canad. Med. Assoc. Jour. 1932. XXVI. p.278.

16. MATTHEWS & DRAGSTEDT — Surg. Gyn. & Obstet. 1932. LV. p.265.

17. APPERLEY. — "Gastric Acidity & its Significance" Lancet. 1936. CCXXX. p.5.

18. MANN & WILLIAMSON. — Ann. Surgery. 1923. LXXVII. p.409.

19. WEISS & ARON — "Rôle des Acides Aminés dans l'evolution de l'Ulcère expérimental." Présse Méd. 1933. XLIII. p.1880.

20. WINGFIELD. — "Histidine Treatment of Peptic Ulcer" Brit. Med. Jour. 1936. I. p.1156.

21. DUBLIN JUNENIS & MARKS. — Proc. of American Life Insurance. (Med. Div.) 1935. XXVII. p.24.

22. BROWN. — "Incidence of Peptic Ulcer, among the single unemployed." Canad. Med. Assoc, Jour. 1934. XXVIII. p.306.

23. REGISTRAR-GENERAL. — "Registrar-General's Statistical Rev. of E. & W." H.M.Stationery Office. 1934.

24. DEPARTMENT OF HEALTH FOR SCOTLAND. — "Report on Incapacitating Sickness in the Insured Population of Scotland." H.M.Stationery Office. 1934.

25. EDWARDS. — "The Value of Gastroscopy." Lancet. 1935. CCXXIX. p.1161.

26. RODGERS — "Gastroscopy." Post-Grad. Med. Jour. 1936. XII. p.383.

27. LENHARTZ. — Deutsch. Med. Woch. 1904. XXX. p.412.

28. BROWN. — "Physiological Principles in Treatment" 4th Ed. Pub. Ballière, Tindal and Cox. 1920. p.83.

29. SIPPY. Jour. Amer. Med. Assoc.
1915. LXIV. p.1625.

30. EADS. Amer. Jour. Digest Dis. & Nutrition.
1935.

31. JONES. Pennsyl. Med. Jour.
1933. XXXVII. p.746.

32. MUTCH. "The Silicates of Magnesium"
Brit. Med. Jour.
1936. II. p.143.
"Synthetic Magnesium Trisilicate."
p.205.
"Hydrated Mag. Silicate in Peptic Ulcer."
p.254.

33. SMITH. "The Histidine Treatment of Peptic Ulcer of the Lesser Curvature."
Brit. Med. Jour.
1935. II. p.154.

34. BULMER. "The Histidine Treatment of Peptic Ulcer."
Lancet.
1934. II. p.1276.

35. von HESSEL. "Die Behandlung des Magen..und Zwölffingerdarmgeschwürs mit Histidin ."
Munch. Med. Woch.
1934. CXLII. 1890.

36. RAFFSKY. Med. Record.
1935. CXLIII. p.289.