Notes and observations from the experience gained from 150 cases of Abdominal Section, performed in a Provincial Hospital

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It is only within the last few years that abdominal operations have been performed in numbers in the smaller provincial Hospitals. For example in Huddersfield Infirmary containing 100 beds there were in the year 1883 only 2 abdominal sections, while in 1895, there were 66 operations opening the abdominal cavity (excluding radical cure of Hernia) Nor is this the case in this Hospital alone, for I find that the rate of increase is the same in most provincial hospitals. Several are the reasons for this rise.

1st. The conditions for which the operations are done are getting more thoroughly understood by the infusion of a new staff of later trained Surgeons - the result is.

2nd. Rational understanding of the antiseptic system and the clearing away of old buildings furniture and instruments which are totally antagonistic to the present day surgery -, causing

3rd. Reduced mortaility and a greater confidence of the patients who soon learn that the County Hospital does as good work as the town Infirmary. Nay there is often now a preference by

some patients for the local hospital even for major operations which can only be accounted for by the fact that they are near their home, that the routine of ward discipline is not so rigidly enforced and the results of operations are quite as successful.

Thus it comes about that in Huddersfield I have had under my care examples in some cases more numerous than others of most abdominal pathological conditions - The study of 150 cases of abdominal section has impressed me with several points in the mode of operation and in the after treatment and in the ultimate results of the cases operated on

By abdominal section I mean any operation opening the abdominal cavity excluding tapping for ascites and Radical cure of Hernia. I am thoroughly convinced that if the previous health of the patients and their general condition were enquired into more carefully before the operations were performed there would be fewer lamentable failures and operations which are looked upon as extremely grave would not send such abject terror into the heart of the operating surgeon. I might take ovariotomy as an example. When a case was diagnosed here the operation used to be decided upon and undertaken without delay, no matter what was the condition of the patient, it being thought that the longer the tumour remained the greater was the exhaustion of the patients strength. But now, by rest in bed, attending to the gastric and intestinal conditions and the curing or alleviating of chest conditions the statistics

of success have gone up . The mortality in the last five years had been reduced by 1/3rd . Other results have improved in the same way with the exception of strangulated Hernia and intestinal obstruction. In those cases the fault lies at the patients own door or that of the General practitioner. There is considerable delay in this district in cases which require immediate attention and in looking over the reports I find that no case of intestinal obstruction from any cause ever presented itself or was presented to our hospital before the disease had at least 12 hours start. The case I specially remember came casually as an out patient complaining of pain and vomiting. She had been ill for six days with a strangulated umbilical Hernia On operating, it was found that the whole of the retained bowel and omentum was gangrenous. The fault in this case lay with the patient herself for although she had called in a practitioner who diagnosed her condition, and warned her as to the result if not operated upon yet she had not paid any attention. Death in a flagnant case of neglect like this is not an unmixed evil as it educates the general public to the danger of delay - but I have seen cases where even the Practitioner was to blame and where taxis and other palliative treatment had been carried on for an unreasonable length of time - There is also a danger in small hospitals, and that is this - although cases of abdominal tumours &c are

relatively as frequent as in larger hospitals in comparison with the number of out patients from whom they are drawn, yet the cases are not very numerous after all and when those cases are examined it may be found that although they undoubtedly possess tubercular kidney or malignant stomach, yet by reason of their age or some organic mischief in some other organ, they are totally unfit subjects for operation. By operating on these cases surgery is abused and discredit brought on it. Even putting aside the fact of death from shock in these cases it remains to be seen that the additional disturbance of the system by operation lowers the vitality of the body and allows greater scope for the incursions of the germs of disease. When a patient is admitted with the idea of having an abdominal operation performed she should be thoroughly overhauled - Heart, Chest, Liver, Kidneys - The intestinal tract should be attended to - the bowels kept open. The functional activity of the skin should be stimulated by one or two hot baths if the patient can bear them and this is especially true of patients brought up in manufacturing towns. They are not accustomed to wash themselves often and the sweat and dirt of their daily toil fills up the orifices of sweat ducts and thus the eliminative power to the kidneys lungs ~~or~~ are abused and overworked. The patient should be under observation for fully a week before operation in all but urgent cases - The diet should be attended to for two days prior to operations and it should consist of soup milk and water or Custard.

The Patient should have a bath the day before the operation, the abdomen scrubbed clean with soap and water and afterwards carbolised. The carbolic compress should be renewed on the morning of the operation after again washing the abdomen with 1 in 40 carbolic lotion. A good dose of purgative medicine should be administered the night before the operation, the amount be gauged by the previous knowledge as to the condition of the bowels. I find that mist sennae co two ounces or Mist Alba two ounces is a good average dose, the Mist Alba may be given in the early morning - if there is no result. A simple water enema should be given 3 hours before the operation and the last food also given three hours before operation which may consist of ½ pint of beeftea or soup - The urine should be drawn off in every case immediately before the operation if the patient has not just passed it . The patients chest should be well clothed in cotton wool bandaged on with woollen bandages - woollen stockings pulled over the feet and legs and the thighs also swathed in cotton wool. I find that this is not only very necessary, but is absolutely essential. I am sure that I have witnessed death from shock in some cases where the severity of the shock was out of all proportion to the gravity of the operation due no doubt to prolonged exposure of the patient to cold. This is especially true in old people. Where the powers of resistance are lowered. Another point is that the abdomen should be uncovered for such distance only as is necessary. It has long ago been found out that exposure

of the abdomen lowers the temperature faster than exposure of any other part of the body. I have repeatedly found out that to reduce a temperature cold applied to the abdomen acts there ~~as~~ more quickly and effectively ~~as~~ than cold to the chest or limbs. Bearing this in memory it will be seen that exposure of a large part of the abdomen for operative purposes adds to the shock by lowering the temperature - The chest should be covered with a small blanket and the lower part of the body also covered with a blanket when the patient gets on the table. If the operating table is a deal one not heated by pipes, hot water bottles should be placed by the side of the patients chest and limbs until the operation is begun. This is necessary because a good deal of delay occurs during the administration of the anaesthetic. They are comforting to the patient and help to keep the temperature up until the operation is about to be begun when they should be removed on account of the risk of their being forgotten and knocked off the table. The temperature of the Theatre should also be attended to 70 not being too hot if that temperature can be kept constant. This is now easily accomplished by Keys new system of heat warming and ventilation of buildings which I will refer to later, in after treatment. The next point is the choice of an anaesthetic. Although trained in a chloroform school to understand chloroform as the best anaesthetic yet I may say I have been much impressed with Ether - For cases

with no disease of the lungs I regard ether as invaluable from the ages of puberty up to 40 years. After 40 the Bronchial mucous membrane is peculiarly liable to catarrh from ether. To patients suffering from Bronchial irritation and inflammation or disease of the lung Parenchyma I give chloroform and ether in combination, I regard chloroform and ether as suited.to these cases because I feel convinced that the ether does not act so deleteriously on the diseased mucous membrane when given in combination with chloroform. It has been asserted that Chloroform and Ether is only a mixture, but I find in mixing the two fluids very considerable heat is evolved and I think that chemical action has taken place and a new compound formed. There is also another point and that is the effect of the anaesthetic on the kidney. I have examined some 120 specimens of urine in different cases after an~aesthetic (and) Chloroform and Ether, Chloroform, alone and ether alone and the examination has been prolonged for 4 or 5 days after the administration of the anaesthetic -I find that in 30% of cases anaesthetised with chloroform albumen was present and in 5% tube casts. After Ether 10% albumen, casts in 2%. Sugar in 2% -With Chloroform and Ether in combination albumen was present in practically the same proportion as after Ether. The urine in most of the cases was normal before the operation but in those cases where albumen was present before, there was a considerable increase in the amount for some days after. Now these facts are

important. Here we have a temporary albuminuria or what I might more correctly term an acute congestion of the kidneys which lasts on an average 3 or 4 days (Post mortem examination in 2 cases of death immediately after etherisation which I examined showed acute congestion of the kidneys but no organic change in structure) There is thus another factor brought in which seriously hinders the convalescence of the patient after operation. The deleterious action of the anaesthetic on the kidneys should be considered before the operation is begun. The action of the kidneys is disturbed at the very time they are wanted to perform their work well. For the first day or two after severe abdominal operations the patients live more or less at the expense of their own tissues. There is increased combustion and tissue waste. If this cannot be eliminated it remains in the system and sets up a condition of uraemia which is often the cause of death in old enfeebled people. There is also the risk that a permanent condition of inflammation of the kidney may be set up which may carry the patient off sooner or later even alothough the operation is in itself a success. If Kidney disease be already present before operation it is much aggravated by anaesthetic especially Chloroform.~~(and Ether)~~. From the consideration of these facts we draw the following conclusions.

That Ether should be given if possible provided there is no contraindication as regards the lungs.

There is another factor to be noted in the choice of an anaesthetic and that is the presence of morbus cordis. I regard chloroform as preferable in ordinary cases of obstructive Regurgitant Heart disease, but Ether as more suitable if there are any symptoms of failure of compensation or a condition of flabby, fatty or dilated Heart -

After the anaesthetic has been determined on and the patient is being anaesthetised the surgeon should wash and a good use of soap and nail brush will do more to keep the wound antiseptic than all the germicides but forward - I do not mean to imply that germicides are not to be used but simply to insist on the thorough cleaning of the Operator's Assistants and Nurses' hands The hands should be steeped in 1 in 2000 Perchloride of Mercury Lotion for a few minutes before the operation is begun. Carbolic Lotion - 1 in 20 for instruments and towels 1 in 80 for lotion and sponges answers every purpose. Boracic lotion hot saturated solution in Irrigator should it be required. The skin should be washed with 1 in 40 carbolic previous to the operator commencing to cut.

There is nothing special about the wound but which should be of sufficient size to allow the Operator to act freely. The situation of the wound should be adapted more to the position of the tumour to be removed than to any fixed line of incision The need of this rule is seen when after making an abdominal section a cyst or abscess is discovered which is to be drained after sewing the cyst wall to the parietes. If the incision is in the middle line a new opening would have to be made over

the cyst if it is to right or left. When the abdomen gets soiled and has to be washed out as little time as possible should be spent in drying out the abdominal cavity. Any fluid that remains is easily removed by a glass drainage tube introduced into a dependent part of the cavity and the fluid sucked off at first every quarter of an hour for a few hours until the fluid lessens. The head of the bed should be slightly raised to allow the fluid to gravitate into lowest parts. The tube can be removed when the fluid registers about 3 one every four hours. This saves a good deal of time in serious cases and I have never seen any bad result follow its use. It sometimes happens after the use of glass drainage tubes, that a little local peritonitis round them glues the coil of intestine against the parietal peritoneum. If the abdomen be again opened in the same place there is great risk of opening the adherent bowel. With regard to flushing out the abdominal cavity, my experience leads me to say that instead of this doing harm in patients who are collapsed it invariably does good if some salient points are attended to. These points are first. Nonirritating Lotion, Boraic Lotion or boiled water. 2nd Water not too hot or too cold. A convenient temperature 110° is that which is pleasant to the hand or what is even more accurate to the skin of the elbow. I have seen collapse in a patient from a cold lotion irrigation of the abdominal cavity. The Operator should satisfy himself as to the temperature of the lotion just before its use.. I do not mean to imply

that the abdomen should be washed out in all cases of abdominal section; but what I mean to imply is this that if there is an occasion it should not be put aside on account of any sign of collapse of the patient.

It must be remembered that speedy and accurate operating is important in abdominal surgery. For although the patient is under the influence of a general anaesthetic yet the sympathetic nervous system remains active and suffers in proportion to the duration of the operation.

The closing of the wound

I have noticed the result of two methods. The one which was first generally adopted in my cases was to stitch peritoneum muscles and skin right through on both sides with needle on handle and silk-worm gut sutures - A few superficial stitches were put in to bring the edges of the skin together - But this method I have now given up as I find that Ventral Hernia has followed its use in more cases than one, therefore I have given it up in favour of stitching the peritoneum separately. Both sides of the peritoneum are caught up with catch forceps and a curved needle threaded with fine silk is put through and tied at the lower end leaving an end free which is caught with a clip and brought out at the lower angle of the wound. The peritoneum is then sewn in its entire length with this fine silk, a continuous suture being employed. When all is closed the upper free end is brought out at the upper end of the

incision and fastened with a clip. The muscular layers are now united with silk-worm gut, care being taken to bring the edges of the strong fascia of abdomen together and the free end of the silk suture is tied to the first upper and last lower silkworm gut stitch. The object of this is to bring the peritoneum well up against the muscular layer. The silk should now be cut short after being tied to the silkworm gut. The wound is now washed with weak lotion and dried and the skin united over the surface with silkworm gut. The great advantage of sewing the peritoneum separately is that if the wound suppurates there is less danger of pus entering the abdominal cavity than if this stitching had not been done - This method of closing the abdominal wound takes three times as long as stitching right through, but there is the distinct advantage that the abdominal cavity is in a few hours shut off from the exterior by the effusion of plastic lymph round the cut peritoneal surfaces.

The wound does best to be dressed with simple dry iodoform gauze - A longitudinal pad of blue wool strapped on. Attention should be paid to fixing a piece of strapping two inches broad below the edge of the wound across the abdomen to hold the dressing down otherwise the wool creeps up and the air gets free entrance to the wound - A little wool should be placed in the hollows of the abdomen so that when the flannel binder is applied moderate equal pressure is kept up and thus the wound is strengthened. The patient is conveyed to a bed

previously heated with hot bottles and if there is much shock hot bottles are applied to chest and feet and the foot of the bed raised.

If severe shock manifests itself after an operation strychnine should be given 3 minims of Liq. Strych. hypodermically every hour for two or three hours. If the shock is very severe and the patient seems about to die Camphor grain 1 dissolved in Ether minims 20, or Spirit of Camphor B. P. minims 10 should be given hypodermically. This injection gives a good deal of pain and although I have often seen it do good yet I am bound to say that in two cases I have thought a fatal result was hastened.

Observing the good effects of sulphonal in abdominal cases I invariably order the following enema immediately the patient is in bed. Beef tea ounces 3, Brandy half an once (or one ounce) according to the patients condition, and Sulphonal grains 40. It is always best to order a grain 40 powder as a good deal of the sulphonal is left in the syringe and the patient only gets approximately grains 30. Although sulphonal is not a narcotic yet I have often seen it soothe the patient into refreshing sleep. If an immediate result is wanted Trional grains 20 in enema acts well. This I find acts much more rapidly than Sulphonal, usually within an hour. Thus we get sleep procured without recourse to the use of opium in fact we get all the advantages of opium without its disadvantages - The Sulphonal or Trional should be used on the 2nd and third night also after the operation if there is a tendency to restlessness or sleeplessness.

With regard to nutrient enemas - I find that if the patient is at all exhausted they should be begun - three ounces of peptonised milk or beef tea in a small quantity of brandy (oz ½) every three or four hours. These can be given for 24 or 36 hours, until the patient is able to take sufficient nourishment by mouth.

Now as regards dieting - Most books on after treatment say no food or drink for 24 hours -Now this is irrational - no hard or fast line can be drawn. If you get a robust patient who has been living well up to a few days before operation you find that thirst very soon manifests itself when the patient comes round from the anaesthetic. If the patient complains loudly of thirst I always allow them to wash out the mouth with tepid water and if the thirst is still very great one dram of very hot water or weak tea without milk or sugar every half hour never does any harm. If there is any sign of retching it should be stopped. I never give ice as I find it does harm. Patients who have been violently sick after the anaesthetic should not have anything by mouth for 24 or 36 hours as the case may be,but ordinary cases with no vomiting may begin milk and lime water in one dram doses after 18 hours.

Valentines meat juice and Brand's essence are extremely useful in cases of great weakness - after the first 24 hours -

The usual course adopted here as far as nourishment after ordinary cases of abdominal section is concerned is as follows:-

After operation nothing given by mouth for eighteen hours.
2nd day. Tepid water given one drachm for six or eight hours then milk and barley water one drachm every fifteen minutes for four hours then gradually increased.
3rd day, Milk and barley water given three pints in the day.
4th day, Custard given
5th and 6th days, Fish for dinner.
7th Chicken given
10th Ordinary diet.

With regard to the urine if it has been a severe case there will be no urine in the bladder for several hours. But I usually find it a good rule to pass the catheter after the first 12 hours if no urine has been voided and 3 times in the 24 hours afterwards if necessary.

As regards distension

Flatus tube passed and left in rectum for 10 minutes on the first sign of trouble, if no result B P Turpentine Enema, then if there is increased distension Seidlitz Powders to get the bowels moved. On the third day it will some times be found that your patient who has up to this been well and begun to take nourishment will commences to vomit.

At first it is stomach contents then green bilious material then coffee ground vomit. There is usually distension of the abdomen with it and patient complains of abdominal pain, the tongue is furred temp usually subnormal and pulse rapid. There must now be no delay. Calomel grains 5 to... VIII by mouth and repeated if necessary in two hours, followed by a turpentine enema 2 hours after the calomel . The bowels are soon opened and the distension reduced and the anxious expression in the patient passes away. If the bowels are not opened the intestines get enormously distended, then paralysed . A condition of obstruction from peritonitis supervenes and the patient dies of exhaustion. In an ordinary case if the bowels have not acted they should be moved on the third day by Seidlitz powders, repeated if necessary, which is contrary to some text books. Stitches of silkworm gut are best removed on the 7th day but if of cat gut left alone for some time longer. A great number of my cases have had the stitches removed on the 5th day and a gate of strapping applied over the wound. I do not like this method so well as I have seen the abdominal wound give after early removal of the stitches and the intestines. prolapse. I have traced two cases where the wound got contaminated when the stitches were removed and the silk continuous suture got infected, and acted as a seton until it finally came away. In taking out stitches withdraws one end of the stitch from and cut through this. There is thus less risk of drawing the wound 1/8 inch septic matter into the wound from the surface of the skin in withdrawing the stitches. The wound

whether healed or not should be supported with strapping and the patient kept in bed three weeks. Then if the wound is the patient thoroughly healed may get up with an abdominal belt to support the Cicatrix. The Patient should be cautioned against heavy work for at least 6 months after the operation in order to prevent any risk of Vantral Hernia from increased internal pressure. With regard to the nursing of abdominal cases I have found from a somewhat lengthened experience that cases sent to the general ward do just as well as those nursed in a special room. This is of great importance in the smaller hospitals where the nursing staff is limited. A special nurse can be put on the case for 3 days and after that in most cases the patient is sensible and careful enough to pay attention to the Surgeons advice under the general supervision of the Ward nurse. It may be argued that the temp of the ward although suitable for general surgical cases is not high enough for abdominal cases. Keys system of ventilation ensures the heating of Buildings at the same temperature throughout if desired. By means of special coils built below each bed or in the wall at the head of the bed the air around each bed can be so warmed as to be eminently suited for nursing abdominal cases, while the atmosphere of the ward at the same time is suitable for general cases. Such then are the general points to be observed in abdominal sections. There are a great many

details that any Surgeon who does general work knows already & which if narrated here would be beyond the scope of this paper

Tabulated Statement of the 150 cases of Operation with the Mortality.

(1) Oophorectomy. 30 cases.

Mortality - Huddersfield Infirmary for 5 years 5%

" " " " 23 " 10%

" Keen & White 5%

(2) Ovariotomy - 19 cases.

Mortality - Huddersfield Infirmary for 5 years - 14 . 2%

" " " " 23 " 38 . 4%

" Trevès 5%

(3) Exploratory Incisions - 29 cases.

Mortality - Huddersfield Infirmary 5%

(4) Strangulated Hernia 21 cases.

Inguinal 9, Femoral 5, Umbilical 6, Ventral 1,

Mortaility - Huddersfield Infirmary for 5 years 27 . 7%

" " " " 23 " 36 . 9%

Erichsen. 35%

(5) Pelvic, Cellulitis, Pyosalpinx &c 10 cases.

Mortality - Huddersfield Infirmary 20%

" Cullingworth 18%

(6) Gastro enterostomy 4 cases

Mortality - Huddersfield Infirmary - for 5 years 57%

Treves (collected cases) 16%

(7) Cholecystotomy - 4 cases

Mortality - Huddersfield Infirmary 25%

" Treves probably 6%

(8) Cholecystectomy - 1 case one Recovery

Mortality Treves 10%

(9) Ventrofixation of Uterus - 5 cases

Mortality Huddersfield Infirmary 0%

" Spaeth of Hamburg (25 cases) 0%

(10) Abdominal Hysterectomy 1 case 1 Death

(11) Abscess of Liver, 3 cases

Mortality - Huddersfield Infirmary 33 . 3%

(12) Appendictis 6 cases

Mortality Huddersfield Infirmary 16 . 6%

" Treves "large number of cases" no death.

(14) Excision of Kidney through abdomen 6 cases

Mortality - Huddersfield Infirmary last five years . 50%

" Treves 40%

(15) Ruptured Intestine 2 cases - 2 Deaths -

In the following pages I have not attempted to give notes on all the above cases. I have only detailed one or two examples of each variety of the above named pathological conditions and made observations on the same .

HYDATID OF LIVER

A. J. E. 35 years Housewife, married was admitted to Huddersfield Infirmary on 13th November with distension of the abdomen. Extreme anaemia and complaining of weakness. She had always been a healthy woman up to 5 months ago when she noticed herself getting larger and began to have very severe pains across the epigastric region - Never had any bowel before trouble and never been abroad. There was no history of rigors - She used to fancy she could feel a lump below the right edge of liver 4 years ago which travelled later to the left side. Latterly owing to the death of her husband she has had to work harder at charring than she had previously done. Family history good. No history of jaundice or syphilis. Her condition on admission was thus :- Extreme anaemia amounting almost to a cachexia. The body was wasted and she admitted having lost some flesh. The abdomen was tense, regularly enlarged and gave the physical signs of free fluid in abdominal cavity. There was no oedema of the limbs. The heart was normal, a venous murmur was present in the veins of the neck the lungs were healthy and the urine normal, bowels constipated, Temp above normal in evening of a slightly hectic character. There was no evident signs of enlarged Liver at least in an upwards direction, or posteriorly. The lower border of dulness was masked by the ascites present. Patient had a slight blue line round the gums.

The Diagnosis was one of malignant or Tubercular Disease of the mesentery or malignant disease in the neighbourhood of the portal fissure.

It was decided to do an exploratory incision with a view to draining the abdomen and clearing up the Diagnosis. Ether was given. Laparotomy was performed. The abdominal walls being found rather thin. When the ascites was got rid of a mass could be felt in connection with the left lobe of the liver and extending down into peritoneal cavity - Examining this through the wound it could be felt to be of a fluid character. The Laparotomy wound in the middle line below the umbilacus was closed and a fresh opening made into the abdominal cavity to the left of the middle line about 1½" below the left costal margin. When this had been done a cyst projected into the wound in contact with the Liver. This was stitched peritoneal surface of cyst to abdominal peritoneal surface, but in doing so the needle on handle perforated the cyst and pus commenced to ooze out. Sponges were packed round the cyst and its contents evacuated, by trocar. The abdomen cleaned around with sponges on handles and the stitching of peritoneal surfaces proceeded with. A glass tube was inserted into the abscess cavity for 6" and the skin stitched around it, the length of wound closed. The contents of the cyst were pus of a thinish watery nature. It was thought to have been a simple abscess of Liver - The patient

was put to bed and attended to and for a few days nothing happened, but a profuse watery purulent discharge escaped from the sinus. The sinus ~~and~~ cavity ~~was~~ were washed out daily with one in forty carbolic solution but it was noticed that although a large quantity of fluid was injected very little escaped until the cavity was full. The patients temperature kept up for about eight days ~~for~~ about 100 to 102°. on the 7th day patient complained of headache all day, the pulse was quick and of high tension. At 3 a. m. on the 8th day patient who had previously spoken to the nurse was suddenly seized with a convulsive seizure involving the arms and legs. There was complete unconsciousness. The temperature was 99.8 the pulse 110 quick and of high tension, grain ¼ of Morphia was given hypodermically. Patient slept - till 6 a m when she had another violent seizure which lasted five minutes. The temp now fell to 97.4 pulse 59 very feeble. Patient perspired freely and vomited frequently, at 9 a. m. the temp had fallen to 96.4 pulse 90. At 11 a. m. she had a succession of violent convulsive siezures every 10 minutes for an hour. The attacks lasted one minute and involved the muscles of the arms and legs. The respiration was sighing and irregular - At 12 she fell asleep and slept some time. When she awoke she passed urine, and it was then noticed that it had a greenish colour. Poisoning by Carbolic acid which was suspected was now diagnosed and the syringing of the wound with Izal

one drachm to one pint was commenced and carried out twice a day for some time. The patient who up to this time had been progressing in a fair way now began to improve rapidly and put on flesh. The sinus discharged a great deal of pus - On the 15th day the sinus was found to be blocked with what appeared to be slough but in pulling at it with forceps a number of semigelatinous masses resembling Grapeskins with calcareous particles and cholesterine crystals adherent were withdrawn. These masses came away daily for nearly 14 days when the cavity seemed to contract and granulate up. She was discharged 2 months after admission with a small sinus about 2" long which continued to discharge a little pus for 8 months after and then it healed. She had regained almost 3 stones in weight since the operation.

Observations on the Case

First as to the origin. The ova of the tapeworm which inhabits the dog must have been swallowed and made their way to the Liver. The symptoms of pain pointed to the abdomen and as there were no manifest signs of disease in any organ some such diagnosis as Tubercular or malignant peritonitis was put forward. The case shows how easily a tumour of the liver can be missed when the abdomen is filled with fluid and the great aid to diagnosis the removal of fluid is, also advanced in favour of draining the abdomen by Laparotomy in obscure cases

so that the abdominal organs can be examined by manual examination. It also points out that with strict antiseptic precautions and no delay in operating the abdomen can be freely handled and opened in more places than one to suit the nature of the case(in this case in two cases) A third point is as regards the stitching of the peritoneal surfaces. In this case probably had the peritoneal surface of the liver not been caught up so deeply the abscess cavity would not have been penetrated. As it was, there was a great risk of the general abdominal cavity being infected with the pus excaping by the needle punctures. The pus was fortunately caught up in sponges packed round the tumour.

A point also arises as to the necessity of watching carbolic acid. In such cases there was evidently retention of carbolic fluid each day in the abscess cavity and the result was carbolic acid poisoning. Thus there was introduced an element into the case which might have been safeguarded against had it been anticipated but which was luckily diagnosed before any very serious accident took place

CHOLECYSTOTOMY followed by CHOLECYSTECTOMY Mrs M age 39 a Cook, was admitted to the infirmary with a small abscess pointing above the pubis.

The history was that for some months back she had suffered from obscure pains in the abdomen but not severe enough to prevent her following her employment. The abscess above the pubis had shown itself a week before admission. There had been no history of jaundice or passage of gall stones, She was troubled with Dyspepsia and constipation for some years before her admission.

Family history good.- Previous illnesses of no importance

PRESENT CONDITION

The patient is thin and yellowish but not jaundiced,hair thin and greyish. She presents signs of premature decay. There is a small fluctuating swelling above the pubis and the skin around is red and inflamed, the heart and lungs are healthy and the urine normal.(no bile) bowels constipated and of natural colour and no faetor from the motions.

The abscess burst in bed and the first indication of gallstone was the finding of a gallstone in bed. The stone was small and facetted and was composed of cholesterine.

When the sinus was probed it was found to extend right up in the direction of the gall-bladder.

A week after admission the patient was anaesthetised with Ether

and the sinus traced up to the gall bladder where nine gallstones were found but very little of any pus was present. A probe was passed into the Cystic Duct which was diagnosed patent. The long sinuous track healed except for a small opening into the gall bladder which discharged a large quantity of mucus. After a time the discharge got less the sinus healed up only to break down and heal up again and again. It was now noticed that there appeared all over the patients body and on the roof of the mouth a number of spots resembling pemphigus spots which discharged soon after they appeared and left a raw slightly granular surface. These healed slowly and were very annoying to the patient. The eruption of these spots corresponded with the closure of the fistulous communication with the gallbladder. In spite of all methods of medicinal treatment these spots continued to appear. It was then determined to perform Cholecystectomy and so 8 weeks after the Cholecystotomy the patient was anæsthetised.

The Sinus leading to the gallbladder was opened up, the adhesions the gallbladder had formed to the parietes were torn asunder and the gallbladder freed. It was now found that there was a calculus blocking the cystic duct entirely and thus explaining why the gallbladder continued to discharge externally. The Cystic duct was ligatured and the gallbladder cut away, the edges of the sinus were pared and the wound stitched up. It healed by first intention and the patient made an uneventful recovery.

The patient left the hospital in perfect health but was still troubled occasionally with the eruptions of pemphigus spots. These on her last visit to me were slowly dying away in numbers and their eruption was at much longer intervals.

From the above case we learn that gallstones may exist in the gallbladder without giving rise to any serious symptoms. It also explains one method altogether unusual by which gallstones may be discharged. In this case at a very great distance from the gallbladder. I remember a case somewhat similar when a student of the Western Infirmary where a gallstone had ulcerated through the gallbladder and formed a suppurating track shut off from the abdominal cavity right down into the famale pelvis. This would probably have discharged itself into the vagina.

A point arises as to the great care that is necessary in those cases, of examining if the ducts are free . Probably had the case been one where the gallbladder and ducts could have been explored from within the abdominal cavity the presence of a calculus would have been detected in the Cystic duct and a Cholecystectomy would have been unnecessary.

Gastro Enterostomy Senn's Plates used.

William Brown aged 44 was admitted into the Infirmary complaining of persistent vomiting and weakness.
The History was that of a prolonged Dyspepsia which begun in November 1895. In March 1896 he had an attack of acute Dyspepsia with vomiting from eating some indigestible food (veal pie) He recovered from the acute attack but the Dyspeptic symptoms continued all throughout the summer. In August he commenced to be troubled with vomiting. This vomiting took place after meals and sometimes he would be quite free for a week and would then vomit a large quantity of foul tasting sour material. There was never any blood in the material vomited. Has lost 2 stone of flesh in a few months. Bowels constipated

His previous health had been fairly good and although he never had been at all robust yet he had never had any serious illness. Family history good
Present condition Patient looks haggard with the face drawn. Is very thin and his bones stand out prominently. The abdomen is shrunken and on Examination no tumour can be made out although the stomach seems distended. At times while it is watched peristaltic action from left to right takes place The bowels are constipated but can be moved with enema, the enema fluid being stained with faeces but no solid particles coming away. The vomiting at times comes on every few minutes,

about one ounce each time and this may last 3 hours and then there be no vomiting for 12 hours - The material brought up is of dark brown colour with no solid particles but is suspiciously like coffee ground material. It is acid in reaction and contains Sarcinae. Lungs Heart and Liver normal. The treatment of the patient for a week after admission was Calomel Tabloids Gr $\frac{1}{4}$, 4 minims of Liquor Strychninae with nutrient Enemata of peptonised beeftea 3 ounces, of Brandy one ounce 4 hourly. Under this treatment the patient began to pick up strength and on the 8th day after admission he was Anaesthetised with C E, the Stomach was washed out with 2 quarts of Boracic Lotion an hour before operation. The abdomen which had previously been carbolised was opened in the middle line in the epigastric region, the wound made being 2" long. The parietes were found to be exceedingly thin. On opening the abdomen the stomach presented slightly distended. The The pyloric orifice was found to be the seat of a hard mass not very large but completely surrounding the pyloric orifice. The Duodenum was brought into the wound and 4 inches pressed with fingers clear of intestinal contents. A piece of indiarubber Drain tabing was then placed round the intestine on both sides of the cleaned parts. This coil was then put back into the abdomen and the anterior surface of the stomach was brought well out of the abdominal wound. It was then held firmly but gently by an assistant and all round about was packed with

antiseptic sponges. An incision about ¾" long was made into the stomach by a tenotome in the horizontal plane of the Stomach. The mucous membrane of the stomach which protruded was now fixed by a few stitches to the serous surface in order to prevent the opening closing up toosoon - very little trouble was experienced by fluid coming out of stomach as it had been washed dry before operation and what little there was escaped, was taken up in sponges. The senus Bone plate was introduced and the fine silk sutures fastened - The thick silk sutures were then clamped with pressure forceps vertical suture to vertical suture and horizontal to horizontal so that there would be no difficulty in telling which was which when they came to be tied. The part of the stomach exposed was now covered with a hot sponge and the duodenum previously isolated was brought into the wound and the plate fixed in position - Previously to tying the thick silk threads the peritoneum on the Duodenum just external to the edge of the plate was united by a few silk sutures to the peritoneum opposite the posterior edge of the plate in the stomach. The silk sutures were then tied and the plates were in absolute opposition. A few silk sutures round the anterior and lateral peritoneal surfaces at the edges of the plates completed the operation in the abdomen. The abdominal wound was closed. The operation lasted 80 minutes and the patient was under anaesthetic one hour and 40 minutes. The patient up to the present time had kept up fairly well now seemed almost dead

from collapse. But by dint of stimulating injections he was able to be got back to bed. He lived for 36 hours, having recovered consciousness and there was no sickness.

Notes on Gastro enterostomy

The relief afforded to patients who suffer from prolonged vomitingdue to some obstruction of the pyloric orifice of stomach has already justified this operation in nearly every case where the progress of the disease has not been rapid. Apart from the simple element of relief from incessant vomiting and in many cases pain, there is to be considered the fact that there is often a subsequent gain in weight and strength. And although in cases of malignant disease it does not prolong life by curing the disease yet the patient is able by reason of the acquired strength to make a greater resistance to the rapid progress of the disease: In many cases too where there is a deal of ulceration round the pyloric orifice the rest to the stomach from the constant irritation of food passing over it allows it to become healed and there is less risk of sudden death from haematemesis.

When a case of malignant disease of the stomach is suspected it should be carefully watched and as soon as certain signs of implication of the pyloric orifice are diagnosed Gastro Enterostomy is justifiable: In those times the patients do not present themselves or are not presented to the Surgeon until their constitution has been seriously undermined by the inroads

of the disease. This is not the time for Gastro enterostomy This is the time for palliative medical treatment entirely - Too little regard is paid by some surgeons to the general condition of the patient and the question of resisting the shock of a grave operation and even of the questionable value of a successful operation in a patient whose constitution is undermined by progressive inroads of a malignant growth. If more time were spent in considering these matters there would be fewer unsuccessful cases and the operation would become quite as important and necessary as excising the breast for malignant disease - The operation need not be restricted to cases only of obstruction from malignant disease. There are a number of cases where stenosis of the pyloric orifice takes place from the healing and cicatrisation of ulcers of the pylorus or more commonly of the first part of the Duodenum and in these cases the operation of Gastroenterostomy is the ideal method of treatment (Below I give a few notes of a successful case of Gastroenterostomy for structure of the Pylorus from cicatrisation of an ulcer) The risk of opening the abdomen is now comparatively nil thanks to better understanding of antiseptics, and if the patient is in fairly good condition he will be able to withstand the shock of an operation on the intestinal tract. In cases where the patient is in a doubtful state much time can be saved by the use of

the Murphy's Button although the case I mention below will shew that it is not quite so certain to effect a firm junction between the intestine and the stomach as Senu's plates. The Button gives only a Linear junction of peritoneum all round, whereas the plates give a junction of peritoneal surfaces of about 1" all round the newly formed opening -

Some cases have been recorded where a great amount of vomiting has taken place after the operation of gastro enterostomy I believe in those cases there has been some interference with the newly formed opening and it has become blocked up. The result is that if anything is taken into the Stomach it attempts to pass away by the ulcerated pyloric orrifice and we have the vomiting of food back again as before. This blocking up of the newly formed orrifice may take place from some such accident as malposition of the plates so that the circumference of one plate overlaps the opening in the other, swelling of the cut mucous membrane of the stomach or even the closure by healing of the cut surfaces. It may also be due to the fact that the Stomach has not been washed out prior to the operation & some food or curdled milk has blocked up the opening. It has been thought to be due to the fact that the patient is in the dorsal position but we know that this is the best position a patient can be in to prevent vomiting. It has also been said to be due to the placing of the opening in the anterior wall of the stomach. In 4 cases I have seen, no such untoward accident has happened. To obviate it I think

it is a good plan to stitch the mucous membrane of the stomach to the peritoneal surface all round the opening made, thus the risk of the opening getting closed up by healing is entirely prevented. Some details have been given by some operators as to the distance from the stomach where the Duodenum should be opened. I think that it does not really matter. A foot or two of bowel does not make much difference. The great aim should be to get a piece of Duodenum which would lie in accurate opposition with the lower part of the anterior wall of the stomach without any dragging. When the bone plates are in position a few fine silk sutures joining the two peritoneal surfaces opposite the extreme edges of the plates, lessen the risk of extravasation of the stomach contents and facilitate the sealing of the opposed surfaces with lymph There is one point which should be noted. The duodenum should not be very tightly clamped preparatory to making the opening for the plate In one of my cases I noticed that the elastic tubing with which the compression of the intestine was made, had caused a slight extravasation of blood under the peritoneal surface and this even although some care had been taken not to fasten the tubing too tightly.

The after treatment of a case requires considerable attention- If there has been little or no sickness and if the patient complains of thirst 1 drachm of tepid can be given half hourly 18 hours after the operation and in a few hours this can be changed to sherry whey. The amount of sherry whey or soup can be gradually increased - I have found that on the 3rd

day custard or milk can be readily taken. 1 drachm of Brands Essence of Meat or Valentines Meat juice occasionally are useful in sustaining the strength. Nutrient enemata every 4 hours are necessary in most cases until the patient has fairly tided over the Shock of the operation. It is best to continue them until the 3rd day at least and then if the patient is still in an exhausted state to continue with them. With regard to the question of solid food I think it is a mistake to commence before the 14th day but no hard and fast line can be drawn. Certainly in cases where Murphy's Button has been used no solid food should be given until the button has been passed: This is necessary to prevent the lumen of the button being closed with a piece of solid food. The notes on this case are given somewhat fully. It was a case which came too late into the surgeons hands but as the man was evidently going to die and that soon if nothing could be done, it was decided to give him the chance of relief by operation.

Case 2. Gastro Enterostomy for Pyloric Stucture from interstitial contraction Sennas Plates.

W. B. age 25 a mill hand was admitted suffering from persistent vomiting of food usually every 2nd day or so of two months duration also loss of flesh and strength. He had a history of gastric ulcer with vomiting of blood about 2 years before his present illness began.

On examination the Stomach was found distended and there were signs of peristalsis in stomach or at times an indefinite feeling of some resistence in the region of the pyloric orrifice of stomach. The Heart & Lungs were healthy, the Liver normal. After having gone through a long course of treatment with stomachic sedatives dieting and washing out with little good result it was decided to make an exploratory incision with a view to finding out whether there was any tumour in connection with the Stomach. In case this were found, Senus bone plates suitable for Gastro Enterostomy had been prepared. (This I may point out is very essential as a lot of precious time can be wasted in disentangling the threads attached to the plates) On opening the abdomen and making an examination of the stomach the pylorus was found to be thickened but there was no feeling of malignancy about it. No ulcer was discovered, even after the interior of the Stomach had been explored with the finger through the opening made for the Senus plate -

Gastro Enterostomy was performed in the usual way with Senus Plates and the patient made an uninterrupted recovery.

The patient who had been rapidly losing flesh before the operation began to get quite stout and went out of the Infirmary in a very excellent state of health. There was no return of the vomiting after the operation and he is still alive and quite strong 18 months after. The case was evidently one of cicatricial contraction of the pyloric orrifice of stomach the

result of an old ulcerative lesion.

Gastro Enterostomy for Pyloric (malignant) Stricture of Stomach

Murphy's Button used.

Tom Beaumont. 40. Mill Worker.

Patient had suffered from Dyspeptic symtoms with persistent vomiting and loss of flesh - Duration six months. A tumour could be felt in Epigastric region, there was Peristalsis and dilatation of stomach. Gastro Enterostomy was performed and the junction of Stomach and Duodenum made with a Murphys Button Operation lasted 40 minutes - The patient although much exhausted before the operation recovered and had no bad symptoms. within 3 days he was on custard and arrowroot and at the end of 16 days he was having milk and farinaceous food entirely -On the 17th day he complained of sudden severe pain in the abdomen - He gradually got into a collapsed state and covered with cold perspiration - temp subnormal - four hours after he died - and on Post mortem examination the Murphys button was found still in position and the Stomach and Duodenum beautifully in apposition, except at one point where the lineal peritoneal attachment had given way and the Stomach contents had escaped into the abdominal cavity

For Gastric Ulcer.

Although the notes on the subjoined case are those of a Duodenal Ulcer yet this was not discovered during life and the treatment both Medical and Surgical was of Gastric Ulcer - The case presented symptoms which were analogous to those of gastric ulcer. Although the treatment of Chronic gastric Ulcer is usually held to be entirely medical yet cases do occur where medical treatment was been tried so long and with so little success that some more radical treatment must be carried out. It has been claimed by some physicians that a cure results in time in all cases of gastric Ulcer.

Leube of Wuzzburg gives 1000 cases successfully treated without any surgical interference - Other Physicians are not so sanguine and admit that there are some cases where no improvement has taken place and where the patients health is gradually being undermined by Haematemesis pain and inanition. Such cases as these where there is a daily risk of death from perforation or haematemesis and where the life of a patient is being made utterly miserable from deferred hope of ever being well justify gain some operation for the cure of the ulcer ~~is perfectly justifiable.~~ The under noted case is an example of such a one as I have pictured - When it has been decided to operate the question arises as to what operation shall be done and although numbers of cases of operation on perforated gastric ulcer have been performed with success yet very few cases of

simple ulcer have been tackled. It was intended in this case to have excised the ulcer, or if it had been found too large to have opened the Stomach and scraped it, so as to have given it a fresh chance of healing. But the condition being undiagnosed even after Laparatomy nothing could be done but shut up the abdominal wound.

Sarah C age 31 Millworker was admitted for a third time into the Infirmary complaining of persistent vomiting, and exhaustion. Previous History Had never been strong but had worked in a Mill 4 years previous to her gastric trouble commencing. At first she complained only of Dyspepsia, regurgitation of sour fluid, heartburn and constipation. This lasted for some years. For the last 5 years she has had attacks of vomiting at irregular intervals during which time she had to lie up. The vomiting was after meals and very often contained coffee-ground material. She also complained of acute pain in the Epigastric and left Hypochondriac region which shot through to the back. Has been treated by various Doctors and for the past year has been an almost continual inmate of the Infirmary undergoing systematic treatment by rest and nutrient enemata &c. There is no family history of malignant disease - Present Condition Patient is very anaemic and has a yellow waxy appearance, walks with a droop and seems in an exhausted condition -Body fairly well nourished. There has been vomiting of coffee-ground material since admission - She has a

point of tenderness in the left epigastric region - Complains of flatulence and acidity. Bowels constipated. No melaena Suffers from Amenorrhoea. Urine Normal - Heart and chest healthy As her condition was one of improvement under nutrient feeding and peptonised milk nothing was proposed to be done but it was soon found that the vomiting recurred as before and with increased severity - It was then decided to explore the stomach and if an ulcer were found to act on a preconceived plan of surgical treatment. Ether having been given the abdomen was opened in the Linea Semilunaris one inch below costal margin. The rectus muscle was divided transversely to give room. The stomach was then systematically explored from the outside but as nothing was found an incision was made through its anterior surface and the interior explored with the finger. No breach of surface could be detected and so the opening in stomach was closed with fine silk and Lembert suture. The abdominal wound was then closed. There was a good deal of sickness after the operation but peptonised milk in one drachm by mouth half hourly (which was supplemented with nutrient enemata given three hourly after the operation) was started after the first 18 hours. This milk was retained well by the Patient. She lived 2 days but died of exhaustion. The postmortem revealed a circular ulcer of the first part of the Duodenum and its walls were as thin as wet tissue paper. The wound in stomach was perfectly sealed and the abdominal incision was fairly united.

RUPTURE OF INTESTINE.

Cases of this severe accident are not at all common and when they do happen they give rise to very serious anxiety, both to the patient and to the Surgeon, to the patient on account of the feeling of impending death and to the Surgeon on account of the great mortality attending such accidents. Most of the cases brought under the notice of the Surgeon are cases where the accident has happened some hours or more previously and then there are signs of peritonitis. The remainder of these cases usually die shortly after the accident from the severity of the shock or from haemorrhage.

When a case of abdominal injury is presented to the Surgeon it requires the exercise of his best faculties to make an exact diagnosis. There may be only very few signs externally and yet internally there may be the severest possible injury to the internal organs. Even the signs of extreme collapse may be absent and patients have been known to go about their usual work for some hours after the accident. The notes on the case below are an example of thisand even when rupture of some of the abdominal viscera have been diagnosed it is not always easy to say what viscus has been wounded. The intestines on account of their extreme mobility in the abdominal cavity are less liable to injury than the Liver and spleen.

W. M. 34. A strong healthy muscular man, a Sawyer in trade, walked into the Infirmary at 10 a.m. complaining of pain in abdomen and vomiting.

History. He hadgone out to his work as usual at 6 a.m. and was

in the act of sawing a large plank when the plank was violently driven backwards against his abdomen thro' the saw catching on a "flaw" in the wood. The pain at the time of the injury was severe but he was able in a few minutes to complete the sawing of the plank and walk home for breakfast at 9 a.m. While at breakfast he began to feel sick and commenced to vomit. He also felt a sickly feeling in Epigastric region. No blood was present in the vomited matter. His wife prevailed on him to come to the Infirmary which he did walking three quarters of a mile.

Present Condition. Patient looked pale and anxious, had a small feeble pulse and complained of severe pain in abdomen. The abdomen which was slightly grazed above and to the left of the umbilacus was distended hard and dull to percussion in front. The urine passed was clear. The vomit was small in quantity and consisted of partially digested food but contained no blood. The temperature was subnormal 97.2 and pulse feeble and rapid 120 to minute.

A consultation was held and it was decided to wait for a few hours to see if the patient got any worse. For two hours he seemed to be better and the patient lay in bed reading a paper., but the vomiting began to come on more persistently and shock became more severe. Patient now looked very ill and a cold perspiration stood out on forehead.

It was decided to operate at once. A nutrient enema with one ounce of brandy was administered and the abdomen which had been carbolised, opened above the umbilacus for a distance of three

inches. On opening the abdomen blood flowed out in considerable quantity. On sponging this away and turning over some coils of intestine blood was seen to be pouring out a rent in the mesentery. This afterwards proved to be a large mesenteric vein which had been ruptured. The vein was ligatured and the opening of the mesentery stitched up. The intestines were then examined and while doing so some of the intestinal contents (currants) were found floating in the effused blood. Thus there could be no doubt about rupture of some part of the intestinal tract within the abdomen. There was some little dfficulty in tracing it but eventually a small cut ¾" long was discovered in the lower part of the Duodenum The mucous membraine of the bowel was protruding and seemed almost to close the opening up. This was quickly sutured with fine silk and Lembert suture. The patient who had up to the present kept fairly well now began to show signs of collapse. The respiration could scarcely be heard, the movement of the chest was imperceptible and the pulse was lost altogether at the wrist. 2 pints of saline solution were injected into the left Median Basilic Vein and an enema of brandy (1 ounce) and hot water was given by rectum. The Surgeon in the meantime proceeded to wash out the abdominal cavity with hot boracic lotion and to close the abdominal wound. The pulse now improved and could be felt and the patient looked a little better. He was now removed to bed, hot bottles applied to the chest and feet, the end of the bed raised and stimulating injections of ether and brandy given alternately every half hour.

He recovered consciousness but only lived four hours. Death seemed to be due to shock and exhaustion from haemorrhage. Post Mortem. The abdominal cavity was quite dry and contained no blood clot or foreign material. The opening in the intestine seemed completely closed with the sutures. There were no other injuries either to solid organs or intestines. The rent in the mesentery was close to the opening in the bowel.

Remarks. The main difficulty in cases of injury to the abdominal viscera is profound shock to the sympathetic nervous system, and altho' the patient is well under the influence of a general anaesthetic yet the sympathetic system seems to suffer all the same. The additional shock caused by abdominal section, manipulation and stitching of the viscera to a patient already suffering severely from shock, seems to turn the balance on the wrong sde and the patient dies. I believe that the injection of Saline fluid in such cases is a great power for good. I have seen the pulse and general condition of a patient improve several times after its use. I think it is useless to transfuse too much. 2 pints seem to do quite as much good, if not more than a larger quantity. I have also found that flushing out the abdomen with hot lotion considerably helps the patient. If the water is too hot or too cold more harm than good results. The temperature of the fluid should be of such a heat as to be agreeable to hand or elbow. In addition it is one of the best methods of cleansing the abdomen of intestinal contents. As regards the stitching of the abdominal wound, no time should be lost and the parietes should be

stitched right thro'. Thus there is no delay in carefully approximating the peritoneal surfaces, altho' there is always the after risk of ventral hernia if the patient survives.

INTESTINAL OBSTRUCTION.

The cases of obstruction which have come into my hands in this Infirmary have not been as numerous as to give me an example of obstruction by all the known causes. By far the commonest cause has been strangulated Hernia, but bands from old peritonitic attacks Acute Peritonitis, Impaction of Faeces and even malformation have combined to make up the number. And commencing first with hernia, my experience is gained from strangulated Inguinal direct and in-direct, Umbilical Ventral and Femoral. None of these cases were seen for at least 12 hours after the strangulation appeared and in one strangulated umbilical Hernia the condition had been going on for a week and the patient travelled 8 miles by rail and walked into the Infirmary. Thus the favourable time for operation was in most cases lost, and irretrievable damage done. All of the Inguinal Herniae occurred in men and the women were responsible for the Unbilical and Femoral variety. A strangulated Ventral Hernia in a youth gave good ground for meditation.

Strangulated Inguinal Hernia . Direct Variety.

G. C. A young man aged 22 years was admitted to the Infirmary complaining of pain and swelling in inguinal region and vomiting The History was that while assisting on the previous day to lift a cart which was very heavy he was suddenly seized with severe pain in the right inguinal region. On examining himself he found a swelling in the right inguinal region which was hard and tender to the touch. Vomiting came on 2 hours after the strain and had continued more or less since. Any food he attempted to take being immediately rejected. Bowels not

moved for two days and no flatus passed since accident.
There was no history of any previous hernia.
Present condition=well nourished man with drawn anxious face. Colour good altho' his lips somewhat livid. Knees drawn up and diaphragmatic breathing marked, short shallow respirations. Pulse 140 hard and wiry, temperature 101°. Vomiting dark watery material with a faecal odour. Complains of severe pain over a swelling in right inguinal region. The swelling is slightly tympanitic but there is no impulse on coughing.
The case was diagnosed as one of strangulated direct inguinal Hernia and an almost vertical incision was made over the tumour. And good deal of tissue was cut thro' before the Sae appeared and as this was as thin as tissue paper it was all but opened before it was found to be sae. The sac was opened, a small amount of discoloured fluid with a feculent odour escaped. The intestine, a small knuckle of which was firmly caught at the exit from abdomen, was of a very dark colour, had a bad odour and did not bleed when pricked. On dividing the constriction at the neck of the sac and pulling down the intestine a circular ring of ulceration was discovered. It was decided to fasten the loop of intestine in the wound and form an artificial anus. The intestine after being stitched in position was opened and a large quantity of fluid faeces, with gas escaped. The patient recovered from the operation and was going about in three weeks after. The artificial anus had almost closed and most of the faeces continued to pass by rectum. 4 months after operation he presented himself for the cure of the artificial anus. This was done in by a method I have not seen

elsewhere described and which seemed to answer well. The Sinus was dissected out as a tube and this was ligatured at its lowest point. The edges of the skin were refreshed and stitched together. By the time that the sinus tube had given way the skin above had acquired a sufficient hold to prevent faeces escaping until the sinus granulated over. I do not think this method would be quite as successful in all cases but, in those in which there is a long narrow sinus leading down to the opening in the bowel it seems to act well.

Strangulated Indirect Hernia.

W.S. 72 years was admitted from a lodging house complaining of pain in a large rupture which he previously had been able to reduce but which now he was unable to do. The strangulation had occurred during the night and had been going on 14 hours before admission. Attempt to reduce it under an anaesthetic failed, and as his bowels had been moved and flatus passed since the trouble came on, the case was left with the following treatment. Hot Fomentations, Large soap and water enema, and the scrotum elevated. In 12 hours time the swelling reduced itself and the man after parting withsome blood by the bowel went out with a truss.—At the end of a week

He was admitted in three weeks time with a similar condition. Remembering his prevous attack and seeing the frequency of them an operation was performed. The sac was filled with a large piece of omentum which was hard fibrous and congested and at the neck of the sac was found a piece of small intestine slightly constricted. The omentum was ligatured and cut away and the bowel returned after inspection. The sac was isolated

and ligatured, cut off at the neck, and the neck of sac stitched to the parietes. The pillars were united and the wound closed. Patient went out in a month with a truss on.

In this case after the experience of the first attack of strangulation it was very questionable whether an ~~herap~~ operation should have been done as rest with palliative treatment cured him before. Moreover his age was much against a successful operation. The simplest method of closure of the rings was adopted so as to save time, the patient being manifestly unable to withstand the shock of a severe operation.

Strangulated Umbilical Hernia.

Patient, a Female, aged 41 was admitted complaining of pain in abdomen over a swelling she had had for five years, also vomiting, symptoms of a weeks duration.

History. Has had 8 children, last four years ago. The Hernia began 5 years ago as a small lump in region of Umbilacus which remained small for three years. For the past two years it has been growing and is now of the size of a cocoa nut. Patient seems exhausted but had walked into the Infirmary. A hard mass is situated round the umbilacus dull to percussion, no impulse in coughing. The abdomen is slightly distended and she was tender. She was put to bed.— An enema given and operated on four hours after admission.

On opening the hernial sac the intestine was found gangrenous. A large piece was removed and both ends of a healthy piece stitched in the wound. The patient did not rally from the operation and died 12 hours after.

The fault here lay at the patient's own door as she was advised to have it operated on a week before. I think suturing the intestine in the wound gave the patient the best chance as no time was wasted.

Case simulating Strangulated Ventral Hernia.

A lad aged 18 in previous good health was admitted with pain in abdomen, vomiting green bilious material. 2 days duration. On examing the abdomen a small ventral Hernia was discovered about 2" above umbilacus in the middle line. It was tender and dull to percussion. As the pain continued and as some distension was present the hernia was cut down on and found to be a small piece of omentum adherent in the sac. It was reduced and the sac tied at the base and cut off, and the recti muscles brought together. The patient continued to vomit for 24 hours when he got very collapsed with a subnormal temperature and cold perspiration stood out on forehead. He died within 10 minutes of the first signs of collapse.

Postmortem. There was found an ulcer in Duodenum which had perforated a large vessel and death had taken place from Haemorrhage.

This case was unfortunate from the fact that it took place from a cause which had not been diagnosed and which might probably have been averted. It was thought at the operation that the lesion found was not sufficient to explain the vomiting, but as small omental Herniae in the region of the stomach occasionally produce vomiting and pain the matter was not pursued further.

OBSTRUCTION FROM ACUTE PERITONITIS.

Cases of acute peritonitis very often simulate obstruction, but they do not only simulate obstruction but are very often the cause of obstruction. When the intestine gets distended with gas the bowel gets paralysed and as a result there is no intestinal action. The result is that a condition of false obstruction supervenes. It may be asked how Laparotomy assists in these cases but I have noticed beneficial effects at least for a time in some cases where it has been done and the intestine opened. Probably by relieving the intestine of all material a condition of rest is produced which promotes a cure.

J. Hirst. 54. Admitted to the Infirmary on 24th January. He had been at work as a Boiler Stoker on the morning of that day but was obliged to give up at noon on account of extreme pain in abdomen. The pain was not localised to any particular part but reached across the lower part of his abdomen. Patient was not doing any heavy work at the time the pain began. It attacked him without any cause. He is subject to extremes of heat and cold in attendance on the boiler fires. His bowels have not been moved for four days and he has had only 6 ounces of milk and a little soda water for the past four days. He commenced to vomit 18 hours after the pain began and has vomited ever since more or less. The day before he came in he vomited 20 times, dark brown material.

Present Condition. The abdomen is swollen and the umbilacus somewhat prominent. There is no sign of any hernia. No tumour can be felt in abdomen on palpation and there is nothing felt per rectum but a somewhat large prostate.

Chest heart &c. normal. Urine faint trace albumen. Pulse 140 hard wiry. Temperature 100. He was vomiting dark faecal material. The tongue is foul and the breath has a sweet faecal odour. The patient was treated with enemas without result., and then the abdomen was opened in middle line. Tubid fluid escaped and a few lymph flakes were present. Intestines congested but no mechanical strangulation. The intestine was sutured in the wound and opened. The patient got relief for 16 hours and then died of exhaustion.

Here then we had probably a case of acute peritonitis brought on by a chill causing paralysis of intestine and subsequent obstruction. This is one of these cases that would probably have been cured by saline aperients. I have similar cases of obstruction caused by peritonitis altho' they did not present a history quite so clear and concise.

Obstruction from Adhesions produced by previous attacks of Peritonitis.

The cases I have seen of obstruction from adhesions have mostly been cases of old Tubercular Peritonitis. If the peritonitis is cured it leaves the coils of intestine all matted together and sooner or later some kink takes place over a band and obstruction is the result. I remember seeing a case while in the Childrens Hospital in Glasgow, where a child who had previously suffered from Tubercular peritonitis and had been cured had gone out of hospital and came in again with a lesion in the lungs. While in hospital it suddenly developed signs of obstruction and the case was watched in the physicians ward

for 24 hours. It was believed to be a case of intus-susception and was treated with enemata, but as the vomiting still continued it was decided to operate and on opening the abdomen it was found impossible to differemtiate any of the intestine on account of these being matted together. A piece of distended intestine was sutured in the wound and opened in positio
The little patient died.
Postmortem examination showed no distinct obstruction but all the intestines were matted together.
With regard to operating in cases of obstruction from adhesions. If diagnosed it should be done without delay. It is best to fix a coil of distended intestine into the wound straight away as it is almost impossible to say which piece of bowel is caught by adhesions and which not, so general is the glueing of the intestines together.
A faecal fistula in the middle line is not at all in a bad situation. It is more convenient for patients when they wish the bowels moved and can be more easily attended to than an opening in the groin.

OBSTRUCTION CAUSED BY A MALFORMATION.

The case I narrate was a baby 3 days old brought into the Liverpool Childrens Infirmary.
The mother said that the child had not passed anything by bowel since birth. On examination no anus could be found, but a slight dimple on the skin in its place. An attempt was made to find the rectum by incision but without result.
On the 6th day the patient commenced to vomit and vomited about half a pint of greenish discoloured fluid. It was

determined to make an artificial anus in the middle line and on opening the abdomen the stomach was found to fill the entire abdomen and the undeveloped intestines lay in the pelvis. The patient died shortly after the operation.
Cases of obstruction from malformations are seen but this was a very curious and rare condition.

Obstruction due to disease of Rectum.
The cases which have been here operated on have been due to the result of malignant or specific disease. The operation which has given temporary relief in these cases has been inguinal colotomy. It is easily performed and produces little shock and there is not much risk, if the bowel be not opened until adhesions have taken place. I have seen a difficulty where no glass rod was used to form a spur. On opening the intestine which had been fixed in the wound faeces escaped but they did not continue to come away by the colotomy opening but by the rectum as before. I have seen also a case operated on where the disease extended upwards beyond the Sigmoid flexures. The result was that left inguinal colotomy did no good as the large intestine was blocked at the seat of the colotomy wound with new growth. Colotomy for structure should not be done unless great uneasiness in defaecation is present or the bowels get entirely obstructed.
Samuel H. Age 34. Lamplighter.
Admitted complaining of great difficulty in getting bowels to move with alternating diaorrhoea

For the past 18 months he has had tenesmus constipation alternately with Diarorrhoea and occasionally lost blood in considerable quantity. He looks pale and anaemic. Stools are thin and contain a good deal of mucopus and blood. There is considerable pain and straining at stool. About 2" from anus there is a tight constriction not admitting finger. No ulceratum can be felt. Inguinal colotomy (left) was performed and the patient went out, passing all the motions by the colotomy wound.

APPENDICTIS.

Operations for appendicitis are by no means uncommon but they are often operations of the general practitioner. They have adopted palliative treatment until the pus which usually forms shuts off by adhesions and has already reached the surface. But there are cases which fall into the hands of the operating surgeon, and these cases are those which cause ~~fatal~~ suppurative peritonitis probably local with no adhesions, and cases where a caecal abscess bursts into the peritoneal cavity. It will usually be found that when the abdomen is opened in the right inguinal region there is little difficulty in finding the appendix, but the pus is pent up by different coils of bowel. The appendix should be dealt with according to the method of the operator. I have found that ligaturing its base cutting it off, sterilising the end with carbolic acid pure and stitching its peritoneum over the end of the stump does well. The pus should be mopped out with white absorbent pads of wool. It is a mistake to flush the general abdominal cavity unless you are sure the penitonitis is general If it is local & you wash out you will probably give rise to a general peritonitis as the incision in the inguinal region is not a good one for flushing out. If you do decide to flush out, it is better to do so from a fresh median incision from which all the dependent portions of the abdomen can be got at.

Case. L.H Age 12. Admitted to the Infirmary complaining of tenderness and pain in right inguinal region & vomiting. History. Present illness began 3 days before admission with faintness & vomiting & pain over abdomen especially in the right inguinal region.

He has vomited more or less for 3 days but has been able to retain at times some milk and soda water. 2 drachms of Magnesium Sulphate and a water enema caused a good stool (~~but~~ with no blood.

Present condition. Tenderness over hard swelling in right inguinal region, tympanites. Temperature 103 and with morning remissions and evening exacerbations. Patient has an anxious pinched expression of face. Lungs & heart normal. Urine normal. She had a similar attack 6 years ago. As the pain vomiting and high temperature continued, an incision was made over the indicated spot, and the abdomen opened. The appendix was easily found lying quite free between coils of intestines. There were a few flakes of lymph on the intestines which were congested. No pus could be found. The appendix was swollen and soft and a small concretion had ulcerated its way thro' at the extreme end. The appendix was treated as before described. On examining the coils of intestine pus was found to well up from below. It was shut in by coils of intestines. It was deemed best to drain this from the loin and this was accordingly done by making an incision in loin communicating with the abscess cavity. A drain tube was inserted. The intestines were sponged free of pus and lymph, and the wound partially stitched up and packed with Iodoform gauze. The gauze was removed in two days and the abscess cavity was found to be shut off by the adhesion of intestines to the parietal wound. The cavity took a long time to granulate up but finally healed.

I believe in this case had the abdomen been flushed out, a condition of general peritonotis would have been set up.
I regard this method of draining by the loin together with an abdominal incision as a very effective method of getting rid of any retained or freshly formed pus.
There is one remark I would like to make about appendicitis and that is in the diagnosis of the cause of trouble. I have found two cases of appendicitis due to Actinomycosis and I am firmly convinced that more cases are due to actinomycosis than are suspected. In these cases it is well to remember that constitutional treatment with K. I. does good after operation, but the K I must be given oftentimes daily as well as in large doses. K. I. is excreted very rapidly by the kidney and if it is not given often there is none left in the blood to act on the fungus.

Abdominal Section on Pelvic organs &c.
The operations of which I have records have been for Retroflexed Uterus, Hysterectomy for Fibroids. Prolapsed ovary, also solid and cystic disease of the ovaries.
Ovarian and Parovarian tumours, suppurating ovaries and Tubes, and Pelvic cellulitis.

Retroflexion of Uterus. Ventrifixation.
Fixing a Retroflexed uterus to the anterior abdominal wall by means of sutures is a comparatively new operation. It is one which bids fair to become the general treatment for bad cases of retroflexed uterus which have resisted all other treatment.
The great majority of cases retroflexion can be treated by pessaries

&c but there are some cases of large flabby uterus where no instrument is of the slightest use. The result is that if the uterus is not fixed it falls back, the appendages prolapse and the patient leads a wretched life with Neuralgic pain, backache and Dysmenorrhoea &c.

Five cases I have seen performed here of ventrofixation of uterus No bad results have followed the fixation - and no interference with the bladder. Pregnancy has taken place in one without any special trouble in delivery or after. (~~or after pregnancy takes place~~) The uterus is found nine months after delivery to be still antiflexed and no prolapse of appendages.

Clara P. age 32, married 2 family., was admitted complaining of severe backache which unfitted her for work. Dysmenorrhora and constipation. Has complained every since the birth of her last child three years ago.

Examination shows a large retroflexed uterus. Replaced with a sound with great pain - It very soon retroflexes on walking about even with a pessary in position -

Operation being decided on, a small incision 1¾" long opening the abdomen was made one inch above pubis. The uterus was raised with hand, and 4 stitches put into the anterior surface of the body of uterus care being taken nto to penetrate the interior. The anterior surface of the uterus was scraped for the space of 1" round the stitches and likewise the adjoining parietal peritoneum. The lowest stitch in uterus was fastened to the parietal peritoneum at lower border of abdominal incision. The other three

stitches were put through the muscular layers of parietes and when tied they drew the anterior surface of the uterus slightly in between the parietes thus ensuring a good pinning of the uterus to the anterior peritoneal surface of abdomen. These four stitches were buried stitches. Superficial stitches were now put in to bring skin together - The patient was able to be up and go about in a month avoiding all heavy household work for some months.

Hysterectomy for Fibroids -

Only one case has been done here and it was one in which there was a condition of general peritonitis as well. There was evidence of an oldstanding Pelvic peritonitis which had lately become acute and purulent and this had set up a condition of general septic peritonitis

Abdominal section was performed 4 hours after admission-there were signs of general peritonitis and Douglas pouch contained flakes of fibrinous pus! A Fibroid tumour with small pedicle was found in Douglas Pouch twisted on itself. A couple of steel pins were inserted at right angles to each other through the uterus ~~first~~ below (the) body, and a strong elastic ligature was put round the uterus below the pins. The uterus with adherent Fibroid was now cut away. A few vesselsseen open on cut surface were tied. A wedge was taken from the stump so as to allow the tissue of the stump to be brought together with sutures. The peritoneum was then sutured over the stump with

fine silk - The abdominal cavity was then flushed out with Boracic lotion, temperature 110°. The previous exhausted condition of the patient hastened a fatal result the same evening of the operation

OOPHORECTOMY

This operation I have seen done more frequently than any abdominal operation. But although I have seen it done in 30 cases I have not seen any very gratifying result from its performance. The conditions for which it has been done have been the usual ones. Pelvic pain and tenderness in the ovarian regions Menorrhagia prolapsed ovaries and epilepsy. In those cases where there is a distinct neurotic tendency I have seen some good results for a month or two after the operation but the ovarian tenderness soon comes on as before. The operation has only done good from its moral effect and as much good might be expected from an incision into the abdominal wall. This temporary alleviation of symtoms was well examplied in a woman aged 38. She was much relieved of her uterine symtoms, for several months she gained flesh but now she is ending her days in an asylum suffering from melancholia. In some other cases the ovarian pains were relieved but gave rise to neuralgic pains in some other part of the body. One case of removal of the ovaries for epilepsy did well. Patient had been having on an average four epiletic fits a week in spite of large doses of bromides. The effect of removing a prolapsed tender ovary in the right side caused a marvellous effect on the patient. The fits were reduced in number and severity within three months time, and with the addition of 20 grains of KBr three times a day she was able to get about with an average of two attacks a month. Looking then at the results from a

fair experience of cases and from watching their after results

I cannot advise the procedure. The operation in itself is simple enough. The patient after the usual preparation is anaesthetised and a small incision made two inches long between the umbilacus and pubis into abdominal cavity. Both ovaries are brought to the surface and examined. The ovary intended to be removed is brought to the surface between two fingers. The broad ligament is transfixed by a blunt pedicle needle and the pedicle tied with a piece of stout sterilised silk and a staffordshire knot. The ovary with the part of the fallopian tube is cut away . The stump of the pedicle is next examined to see if all haemorrhage is stopped. If any suspicion of haemorrhage exists the open ends of the cut vessels may be ligatured. The silk ligature is cut short and the pedicle dropped into the pelvis. The other ovary is dealt with if necessary. A small sponge is passed into Douglas' Pouch to see if there is any haemorrhage.

The following is the history of a typical case for which oophorectomy was performed.

C. D. age 30 Housewife Admitted complaining of pain at the bottom of the back. Great pain which incapacitated her from housework at her menstrual periods

Menorrhagia. Has leucorrhoea.

Catamenia. Regular last period one month ago, large quantity no clots, usually lasts a fortnight.

Bowels constipated.

Patient is married, four children, difficults births, no miscarriages. Medicine given to relieve her distress has had no effect.

P. V. Right ovary prolapsed and exceedingly tender to the touch, left ovary just felt.

Lungs and heart normal. Patient well nourished and of a neurotic disposition.

The operation of oophorectomy is one which is ruled by the whims of different surgeons. In some hospitals it is scarcely ever done at all and in others very frequently. This is brought out by the following statistics with the death rate for the past five years.

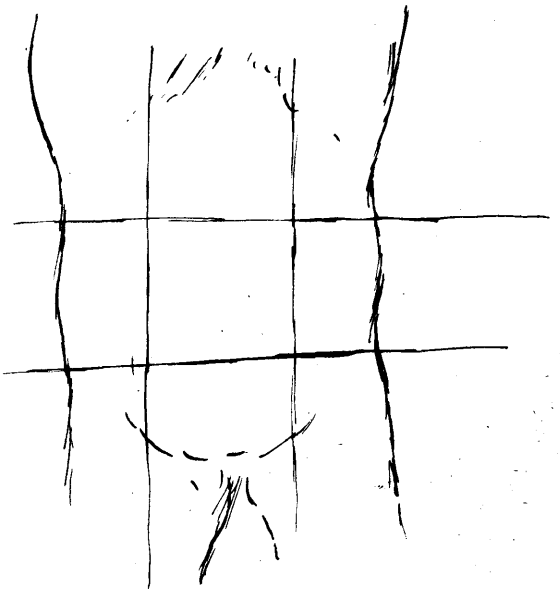
Huddersfield.	100 beds.	40 cases.	5% mortality.	
Bradford	220 "	30 "	6.6% "	"
Hull	188 "	25 "	3.8% "	"
Halifax	100 "	2 cases	0 deaths.	
Newcastle-on-Tyne.	277 "	57 "	15.7% "	"

Mortality Keen and White 5%

The high mortality in Newcastle Infirmary is a subject for grave comment. A mortality of 15% in itself for an operation not absolutely necessary should be a deterent against interference.

Suppurative Inflammation in the Pelvis (Douglas' Pouch)

Recurrent attacks of pelvic peritonitis in the female may be compared to recurrent attacks of inflammation of appendix



or around the caecum. The inflammation around the caecum or in the appendix may occur frequently and be cured by palliative treatment but the time comes when there is pus formed and it either sets up a general peritonitis or forms a large abscess, which is opened or in time discharges into the bowels or opens on the surface. The same is true of Pelvic Peritonitis. It is produced by one cause & that is diseased ovaries or tubes and disease spreading from them. This gives us a point as to treatment. Just as in appendicitis it is little good opening the abscess without removing the appendix so in Pelvic suppuration it is little good opening the abscess unless you remove the diseased ovary and tube. This of course is not always feasible. Now it is argued would you operate in every case? just as mild cases of pain in the iliac fossa accompanied with or without temperature & vomiting get well without operation but with rest & palliative treatment so do cases of pain with induration in the pelvis get well with pallative measures. But if it is decided to operate the question comes in whether by vagina or by abdominal incision. This is a point of dispute merely between Gynaecologists & Abdominal Surgeons. A general Surgeon takes an impartial view & operates through the abdomen. The Gynaccologist argues that there is greater risk opening the abdomen than by tapping through the vagina & also that the pus escapes better by gravitation, while the Abdominal Surgeon says that by abdominal section you see what you are doing. You are able to remove the fons et origio of the trouble & drain the pelvis better by the abdominal incision. With this latter view we fall in. Of course there

is a good deal of risk in removing the cause of the disease for if much inflammation has taken place the ovaries will be very adherent to the intestines and there may be the risk of perforation with faecal fistula and extravastion of faeces or free haemorrhage from the tearing of adhesions. In addition it may be practically impossible to remove the cause of the disease for the same reason. There is also a risk of general septic peritonitis from soiling of the general peritoneal cavity - The only cases I should tap from the vagnia are those cases where the strength of the patient is at its lowest ebb and where it was considered that if operated upon the patient would die on the table. Such a case I had in hand a few months ago and where I had the privelege of watching the effect of antistreptococcus serum. The patient was manifestly suffering from septic absorption and had an evening temperature of 105° with a drop in the morning to normal or subnormal. The injection of 10 C. C of serum twice daily for 6 days had not the slightest effect in lowering the temperature or even preventing septic processes elsewhere, as the patient started a septic pleurisy. The following is a common but typical case of Pelvic Inflammation.

C. H. 24 Housewife, admitted to the Infirmary complaining of Menorrhagia and pain in the right ovarian region. Backache - She has been unable to do any work for some months and is practically confined to bed or sofa.

Was strong until 4 years ago - At that time she had ~~a miscarriage~~ an abortion after being pregnant 14 weeks. Since then she has had

constant hemorrhage - Her periods occurring every week. She has also been troubled with profuse Leucorrhoea - Three months ago had an attack of pain in lower part of abdomen and was feverish - It passed off by rest in bed &c - She was still troubled with Menorrhagia and a month ago had another attack of pain and feverishness -

Present condition -

Patient looks ill - fairly well nourished evening temperature 102° Abdomen slightly distended, complains of pain in right ovarian region where there is a feeling of resistance. P. V. Uterus antiflexed and fixed - os uteri patulous with some discharge Tenderness on both sides of uterus - Right tube is enlarged and probably ovary also. Urine normal, Lungs normal, Heart systolic murmur probably of haemic origin.

The abdominal operation revealed suppurative disease of ovaries and tubes on both sides The right tube was dilated with pus. There were a good many adhesions but they did not cause much haemorrhage - The tubes were ligatured and ovaries and tubes removed. As there was no collection of fluid in Douglas Pouch, the abdomen was closed and no tube put in - The Patient made an uninterrupted recovery. There is a difficulty as to drainage tubes. In cases with an abscess in pelvis where the diseased tissues have not all been got away or where there is haemorrhage a glass drainage tube should be used. The use of this must be watched, as I have seen a good many cases of faecal fistula follow their use in these cases where there were adhesions to the intestines. The peritoneum being stripped off

the intestine the glass drain tube speedily ulcerates its way through the other coats of the intestine and although the faecal fistula usually closes soon when the tube is removed or a rubber tube put in yet I have seen such a fistula last for 18 months

Ovarian Tumours.

Operation in these cases is not usually difficult - but where some inflammatory complication has t aken place and the cyst is adherent to the peritoneum there is the greatest possible difficulty. I have seen the parietal peritoneum stripped from the transversalis facia in one case for a distance of several inches and I have also seen great trouble with haemorrhage in cases with many adhesions. In some cases of semisolid ovarians I have seen it absolutely impossible to remove the whole tumour. What was left after cutting the free parts away was fixed in the wound to discharge and granulate. Some cases of ovarian tumour give great difficulty in diagnosis from ordinary cases of ascites or fat in abdominal wall. The following is the history of a case.

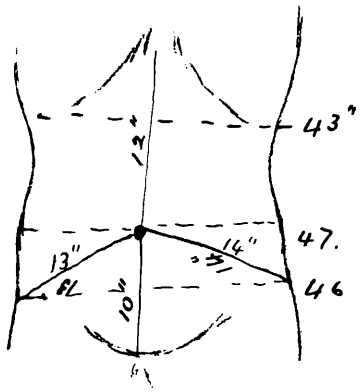
Mary R. 47 married - 3 Children

Admitted to the Infirmary complaining of swelling of abdomen She was quite well up to 2 years ago when she first noticed her body was increasing in size, more to the left side. Since then it has gradually increased but during the past 4 months more rapidly

Menstrual History Menstruation has always been regular until 3 years ago. She then had some menorrhagia and metrorrhagia The periods coming every 14 days and lasting 4 days. No Lencorrhoea. The abdomen is swollen tense. It is harder and more resistant towards the left flank.

Physical Examination Abdomen dull except in right flank and epigastric region The veins are prominent on the surface of the abdomen and the umbilacus projects slightly. A fluid wave can be obtained across the tumour

Measurements



The lower part of the right side of the abdomen is dull the dulness does not change on changing position of patient. It will be noticed that the normal state of affairs exist as to the distance between the Xiphoid and Umbilacus (12") & Umbilacus & Pubis (10") normally there is 1½" or 2" greater length between the Xiphoid and Umbilacus.

It will also be noted that Menorrhagia and Metrorrhagia were present a rare condition in ovarian tumours. There is more generally Amenorrhoea

One case of Parovarian cyst was operated on where the cyst (Right ovary) was suppurating but was shelled out entire. It was interesting from the fact that the patient had been treated a year before for Typhoid Fever and the pain in right iliac fossa was thought to be due to ulceration of intestine -

Excision of Kidney through Abdominal incision.

Cases where a nephrectomy is applicable are not quite so plentiful as one might expect. The Common pathological conditions for which it is usually done are malignant Disease, Carcinoma, and sarcoma Cystic & Tubercular disease. It may also be done where there is a condition of Pyonephrosis brought on by an impacted stone in the pelvis of the kidney, but as a rule the kidney structure in these cases is not entirely destroyed and there is now necessity for removing the entire organ. For after the stone is removed the conditions for healing taking place are the best, a patient ureter and a constant secretion of urine, which draining away carries the pus with it, in fact the surface of the ulcers in kidney are constantly being flushed if any urine is coming away at all. And when we diagnose either Tubercular or malignant disease we have to hold our hand until we are fairly sure that only one kidney is affected. But it very often happens that it is impossible to say for certain whether both kidneys are affected and if the patient seems to be making little headway it does not do to prolong the evil day. An explaratory incision and a thorough manual examination of both kidneys soon clears up the diagnosis. If it is found that one kidney alone is affected the Surgeon should be prepared to extirpate. It is sometimes

sufficient to examine a patient under anaesthetic when on the relaxation of the abdominal muscles a tumour may be found in one or other loins indicating which side is affected with disease. But another difficulty presents itself in cases where no tumour is felt and that is whether the pus is from the kidney or bladder. One of the cases enumerated below was treated for stone and cystitis for some weeks and it was only when the treatment of the cystitis failed that the Kidney was suspected. When a renal tumour is diagnosed the question comes to be whether it is malignant Cystic or Tubercular - sarcoma or carcinoma

Now all the cases of malignant disease I have ever seen have been of the following nature. Sudden parting of a lot of blood probably after exercise mixed with urine and if much there may be clots, and Bloodcasts of ureter sometimes passed entire as long red wormlike bodies - very little pain in kidney region but just enough to enable one to locate which side is affected. Passage of clear urine for some days or weeks before any more appears.

In cystic Disease I have found little change in urine but the presence of a tumour in loin

In Tuberculer Disease the pain is more constant, blood in small quantities and pus are continually present. For as soon as pus passes down from Kidney and enters the bladder, it sets up a cystitis which takes on a tubercular character and thus there is a constant discharge of pus and

even blood in urine independent of kidney. It is this which makes the difficulty in diagnosis. With regard to the operation there is no particular difficulty. The ordinary Langenbuch incision does well and if it does not allow sufficient room a lateral incision into the loin at right angles to the first cut will be all that is wanted. Both kidneys are then examined The Intestines being drawn aside the peritoneum just over the tumour is incised and then torn with the fingers. The Kidney is then freed from its cellular connections and the ureter and vessels tied. Care is taken not to tear the Kidney because if pus is present the area around gets infected and in the end the abdominal cavity. If the kidney is malignant and torn there is often a good deal of haemorrhage and pulpy red matter containing active cancer cells may escape and get a resting place in the peritoneal cavity ready to be taken up by the stomata. The ureter if diseased should be brought out in the loin but if not diseased ligatured and dropped into the peritoneal cavity. If a large pyonpphritic abscess or cystic condition is present the kidney should be aspirated and the puncture opening sewed or ligatured before attempting the removal of the organ. If the abdomen gets soiled it is best to wash out -A long glass drainage tube should be fixed into the cavity left by the removal of the kidney. It should be

left in till the fluid ceases to collect which it does in a few hours. The tube should be taken out after 24 hours. The after treatment is important. Chills should be prevented by a ward of equal temperature without draughts. The diet should be light from the beginning milk and barley water commencing after 18 hours or so according to the case. It will be noticed at times that after the anaesthetic sickness passes off there is a rest for perhaps a day or may be two and the vomiting of green bilious material occurs. The urine has also dropped in quantity. The tongue is foul and the temperature raised. This is an indiçation for energetic treatment. Uraemia is threatening but may still be warded off. Vapour baths and injections of Pilocarpine twice or three times in 24 hours usually cause the skin to act so freely that the strain is taken off the active kidney and there is a chance of compensatory hypertrophy occurring - The bowels should be kept open. Animal food in large quantity should be abstained from for some weeks after the operation. I have noticed that sign of uraemia manifested themselves more commonly after extirpation of the kidney for malignant disease than after extirpation for either cystic or Tubercular disease. The reason is probably this that a malignant kidney is more active and performing more work before its removal than either a tubercular or cystic kidney - I give an example of each common form of disease of the kidney for which abdominal section was performed.

Tubercular Kidney - (left)

C. W. aged 18 unmarried admitted to the infirmary with a large semifluctuant tumour in left loin.

History - Worked as a "Winder" in a mill up to three years ago but as done no work since. Had Nephritis when 6 years of age but no other illness. The illness commenced with anaemia, 3 years ago and definite signs were discovered about one year ago when she complained of pain over the kidney region. Since then it has come on as sudden severe paroxysms which double her up with intervals of freedom. Her urine has never had to her any definite peculiarity but she has had occasional pain on micturition which coincides with the pain in the kidney region - No blood. She has had several shivering turns followed by sweating. No phthisical history - Has no cough to speak of and does not think she is losing flesh - Menstruation regular and normal.

Lungs and Heart normal.

Urine acid trace albumen no sugar Pus, amorphous urates.

Present condition.

A semifluctuant tumour occupying the left umbilical and Lumbar region - slightly tender on pressure - Patient anaemic but in fair condition.

A week after admission and after preparation for abdominal section the abdomen was opened and the kidney exposed. It was found to be practically a bag of pus. This was aspirated and 1½ pints of pus drawn off. The ureter was found healthy

and ligatured one inch from the pelvis of the kidney, it was dropped back into the abdominal cavity. The vessels were then tied with a strong silk ligature encircling the artery and vein and the diseased kidney tissue cut away As some pus had escaped the abdomen was flushed with hot Boracic Lotion. A Keiths glass drainage tube was inserted into the cavity left by removal of the kidney and brought out at the abdominal wound. The abdomen was stitched right through skin muscles and peritoneum to save time. After treatment. Fluid sucked off every ½ of an hour at first and stopped when it registered 1 drachm only 4 hourly. Patient had the usual Sulphonal Enema and fed with peptonised milk(4 ounces)enemata 4 hourly. The enemas were given because the patient was in a very collapsed condition. After 18nhours, milk and barley water was begun in 1 drachm doses at first and gradually increased. The enemas were stopped on the second day as the patient was taking three pints of milk and water in 24 hours. No uraemic signs manifested themselves. The urine which registered on an average 18 ounces before operation now ran up to 23 and 27 ounces. It was acid specific gravity 1022 trace albumen and a few pus cells - On the 5th day the left foot began to get painful and swollen and in 24 hours it was swollen up to the thigh and very painful A condition of thrombosis had set in probably from the anaemic condition of the blood. If it had been due to thrombosis starting from the renal vein it must have affected both legs. A month after the swelling in the leg had disappeared the urine was normal and contained phosphates occasionally and patient

was in excellent health

Sarcoma of Kidney

J. B. 24, Clerk was admitted to the infirmary ina collapsed condition complaining of passing blood in the water. It came on with pain in the right side shooting down the right thigh while in the football field playing, and on going to the tent he commenced to pass bloody urine. He passed about one pint of bright red fluid which was a mixture of urine and blood. He had previously been a quite healthy athletic fellow.

Present condition. Pale but fairly muscular. Nothing abnormal detected except that he has passed urine with blood. No tumour detected in the abdomen.

He went out in 14 days apparently well and no return of the trouble

6 weeks after I again admitted him in the same condition - passing a large quantity of blood and suffering from collapse. Now there is a suspicious fulness in the right Lumbar region - In three weeks time this could be recognised as a distinct tumour and so abdominal section in the linea semilunaris opposite umbilacus was performed. The right kidney was found immensely enlarged and incapable of being renewed.

The wound was closed and the tumour grew rapidly. The legs now

began to swell from thrombosis and the abdomen to be filled with ascitic fluid from pressure of the tumour on the veins. The patient died in 4 months time from the commencement of the illness from exhaustion. Had abdominal section been done in the first instance it might have been found that the kidney was not too large to be removed and the lads life saved.

Cystic Disease of the Kidney

A woman was admitted with a large tumour in right side which changed its size every 3rd or 4th day and this change in size was coincident with the discharge of a quantity of pale urine. The heart and chest were normal. The urine was normal. The kidney when removed after abdominal section shewed a large number of cysts communicating with the calyces. The ureter seemed patent .

Carcinoma of Kidney.

W. M age 70 Pedlar.

Admitting complaining of occasionally passing blood in urine

History Was a healthy man up to 3 months ago when he commenced to pass blood in the urine. The blood was bright red not clotted and the attacks of haematuria were paroxysmal. The urine between times was quite normal. The haematuria also came on when resting in bed and had no relation to exercise. No tumour could be felt but there was at times an aching sensation

in left loin. The Kidney was diagnosed as the seat of the disease after the passage of a long red wormlike body which no doubt was a cast of the ureter.

An exploratory incision was performed and the left kidney was diagnosed diseased.

The abdominal incision was closed and the kidney removed with difficulty through an incision in the loin. The patient rallied 24 hours but died of shock.

In this case I think perhaps a mistake was made. It would have been better to have removed the kidney through the abdomen. Much time would have been saved and less shock produced by the performance of a loin operation. The only advantage of the loin incision would have been that the operation was extra peritoneal but as the peritoneum had already been opened the risk was just the same.

Simple Exploratory Incisions into the Abdomen

These have been performed in most cases with a view of clearing up a Diagnosis. Tumours may be felt and yet the organ from which they spring not known

These cases have usually turned out to be cases of malignant disease of the omentum, Cysts of the Pancreas or Phantom Tumours

Then again cases of obscure abdominal pains without any known cause. These cases are very frequent in Huddersfield and the cause very often lies in the Water supply which is in the majority of cases tainted with Lead by the time it gets brought into the house in pipes - There are cases of Plumbism without any blue line on gums to give one the keynote of the trouble. No tumour of course is found but frequently the performance of abdominal section cures the pain -

A very good case for exploratory incision came under my care a few days ago.

W. M. age 32, Millhand

Admitted to the Infirmary complaining of vomiting of food and pain in the abdomen. The vomiting of food had only come on lately and consisted of frothy material but no food . No blood. The pain in the abdomen was referred to the left hypochondriac region. The duration of his illness had been two months and it had come on gradually with loss of strength and slight loss of flesh and colour.

Present condition, very anaemic man, almost cachetic.countenance. Fairly well nourished. No lead line on the gums -

Careful examination of the abdomen revealed a small mass in the left hypogastric region about 4" below the margin of the ribs. It gave a distinct feeling of pulsation which however was not distensile. There was a clear area between the liver dulness and the tumour. The stomach was not dilated. The tumour moved with respiration but did not do so with any peristaltic action. During his 3 weeks rest in bed in Hospital it grew larger and more painful - Pulsation also was more marked The temperature was irregular usually 100° at night and down again in the morning. Lungs normal.
Heart, Ventricular Systolic murmur -
Family History - No history of Malignant disease in the Family No Syphilis. As the diagnosis and prognosis was obscure an exploratory incision was made to clear up the diagnosis. The incision was made in the usualy way over the tumour so that if it had to be removed it would thus be more easily tackled. The tumour was found to be malignant disease of the omentum and was adherent to part of the anterior wall of the stomach. The pain was caused by attacks of local peritonitis. There was a considerable impulse over the tumour due to the pulsations of the Aorta being communicated -

Enlargment of the left Lobe of the Liver - - Dilated Stomach?

Harriett F. 51 years, married 11 children. Admitted to the Infirmary complaining of haematemesis and General weakness. History was - that her illness began 7 years ago when she fell

down stairs on her side. She was confined to bed for a week and during that time she noticed a beating or pulsation over her stomach - For some months she has complained of pain after meals - the pain occurring about an hour after, and being relieved on vomiting. The vomit was often blood stained - sometimes was quite black. The bowels were constipated but she never passed any tarry motions. She declares she has lost over one stone in weight during the last 3 months. She herself noticed the swelling in the epigastrium 6 years ago but does not think it is any larger now. Menstrual periods which were regular are now wearing off.

Previous illnesses, Rheumatic Fever, 3 miscarriages but no history or signs of Specific disease.

Family History - Mother died of Cancer of Rectum and Father of some intestinal complaint.

Present condition. Patient is pale and anaemic - Has vomited once or twice since admission 2 days ago. No blood. There is an elongated tumour felt to the left of the middle line just below the left costal margin. Over this tumour there is considerable pulsation but not murmur. It has been noticed that this tumour recedes at times and very little can be felt except some sense of resistance and pulsation to the left of the middle line below the costal margin, but at other times it gets very prominent and moves slightly with the peristaltic movement of the Stomach. The stomach is dilated. Heart and Lungs normal and the left border of liver dulness increased -

Pulse 72 temperature 100 in the evening 99 in the morning. Urine normal. The Diagnosis of the case was obscure and consultation on the case gave (1) Malignant Disease of Stomach (2) Aneurysm, (3) Displacement of the spleen or possibly kidney as the Diagnosis,. The reasons for these are given later. Considering the vagueness of the Diagnosis and in view of the fact that she had been under treatment for some times without any benefit it was determined to clear up the case with an exploratory incision -

7 days after admission she was brought into the theatre after previous preparation and under anaesthetic (ether) an incision made into the abdominal cavity to the outer side of the left rectus muscle in the Hypochondriac region. The left lobe of the liver was found to be irregularly enlarged and freely movable with each inspiration. There was no tumour in connection with the stomach or in the region of it. The aorta was dilated but not sacculated and there was no displacement of the spleen, or floating kidney - The abdomen was stitched up and the patient made a good recovery,- with the exception of a little bronchial irritation. The bowels gave some trouble but relief was always obtained with a turpentine enema every 2nd day. The patient has had no return of the sickness and is picking up again after the operation and does not complain of the abdomen. The vomiting has ceased, this no doubt being due to the rest in bed and the enforced milk and slop diet before and after the operation.