casual manner only. The protection of the public would be far more efficient were the purpose of this isolation fully recognized.

A Clinical Lecture

ON

A RETROSPECT OF A THOUSAND CONSECUTIVE CASES OF ABDOMINAL SURGERY.

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In the haste of modern life there is a danger of finding little time to read and less to think; yet it behoves us to review periodically our methods, or we may fall behind the progress of the age and deceive ourselves with a false sense of efficiency.

Although abdominal surgery covers a wide field, there is little room for "specialism," for the surgeon who opens an abdomen should be prepared to treat whatever condition he may find present; and you may gather some idea of the nature and frequency of the various conditions more commonly met with when you know that my series of cases includes 101 operations on the ovaries and tubes, 75 on the uterus and broad ligaments, 127 operations for hernia, 229 for appendicitis, 49 operations for diseases of the liver, gall bladder, and bile ducts, 65 operations on the kidney, 126 operations for diseases of the stomach and intestines (excluding hernia and appendicitis), 29 operations on the urinary bladder and prostate, and 24 operations for tuberculous peritonitis and peritoneal adhesions.

We can analyse these figures when speaking of some of these operations later, but there are certain general considerations which must first be discussed, though it should be borne in mind that I am dealing solely with such methods as I have thought it best to adopt, and I do not propose to give you an account of the many ways and means that others may prefer.

It must be remembered that the chief source of infection of wounds is the skin of the operator and his assistants on the one hand and that of the patient on the other; and as all methods of disinfection are easily likely to fail, it is desirable that great attention should be given to this point. The hands should be scrubbed with a sterile nail-brush for five minutes in frequent changes of hot water and soap, and afterwards immersed for at least two minutes in a 1 in 500 solution of biniodide of mercury, with 70 per cent. alcohol, as recommended by Lockwood. This solution can be allowed to dry on the hands, or a dry sterile cloth can be used, and rubber gloves (previously sterilized) are then put on. It is true that rubber gloves diminish tactile sense, but the feeling of security and the additional safeguard against sepsis which they furnish more than counterbalance the slight inconvenience entailed by their use. The skin of the patient is often prepared some hours before operation. After being shaved, it is treated with turpentine, ether, and soap and water, and then covered with a weak antiseptic dressing; but, just before operation, it should be covered with a cloth wet with the alcoholic biniodide solution already referred to. As soon as the incision in the skin is made, a further protection against the possibility of infection from the skin of the patient is afforded by clipping the edge of a large sheet (which covers the patient except for a hole opposite the operation area) to the sides of the wound.

Consistently with freedom of manipulation, all abdominal incisions should be as short as possible—in appendicitis it is rarely necessary for it to extend much above 2 in. in length. In operating on the lateral parts of the abdomen, where the incision goes through a muscular area, the method of McBurney, in which the muscular fibres are separated bluntly and not divided, should always be adopted if possible. If this form of incision is used in cases of appendicitis, ventral hernia can scarcely follow, provided that no suppuration occurs. In operating in the middle line the tissues are best divided by raising them on two pairs of forceps, and cutting between them. The interval between the two recti is sought—one or other

sheath being opened—and the peritoneum then incised between two forceps, as already mentioned. McBurney's incision is closed in layers; but incisions in the mid-line are closed by stitches of silkworm gut, taking in all the tissues on either side, and supplemented by a few superficial intervening stitches for the more complete approximation of the skin. I do not believe it to be necessary to adopt any of the more recent complicated incisions for opening the abdomen in or near the mid-line, nor do I think it necessary, as a rule, to suture such wounds in layers. The prevention of ventral hernia following abdominal incisions is best secured by keeping the incision as short as possible, avoiding undue tension on the stitches, and by the attainment of union by "first intention." If these conditions obtain, it matters little what form of incision or suturing is adopted; and in support of the efficiency of the simple methods suggested it may be noted that in the period covered by this series of cases there were only seven operations for ventral herniae of all kinds, including those that followed suppurative appendicitis and other conditions which are known to favour the occurrence of hernia.

Marine sponges have been discarded in favour of swabs of dry sterile gauze, but no swab is placed in the abdominal cavity unless it has a long tape attached to it in order that it may be easily found and removed.

Boiled silk or cellulose thread is used inside the peritoneal cavity, the former for the suture of intestine, the latter for ligatures of vessels, etc. The finest cellulose thread is not fine enough for intestinal work, though it bears boiling better and is less bulky than silk for other purposes. Catgut, though theoretically better, is less reliable.

Irrigation of the abdomen has been practically abandoned except in some cases of ruptured intestine, perforated gastric ulcer, or other condition leading to extensive fouling of the peritoneum. When resorted to, the incisions should be free, so that the process may be thoroughly carried out in all parts of the abdominal cavity; and, if necessary for this purpose, the intestines should be turned out into warm cloths. Unless done with assiduous care, irrigation may be productive of more harm than good, and I well remember cases of suppurative appendicitis that were lost when "flushing the abdomen" was in vogue, that might have been saved by the adoption of the present treatment of dry sponging.

In non-suppurative cases, just before the last stitch is tied at the end of the operation, I frequently put two or three pints of hot normal saline solution into the abdomen, and leave it there to be absorbed. It certainly prevents much of the thirst from which most cases of abdominal operation suffer, and I am inclined to think it diminishes pain.

Superficial (skin) stitches are removed at the end of a week, but deep stitches are left for a fortnight or longer. In all cases where the incision has been more than 2 in. in length, the patient is advised to wear an abdominal belt and pad for six months to a year.

The discussion of the diagnosis of abdominal diseases is too extensive for my present purpose; but before dealing with the different groups of operations I should like to remind you that many acute abdominal conditions commence in much the same way, and thus may lead to some difficulty in diagnosis at the beginning of the mischief. Thus, vomiting in association with pain and collapse is found in almost every case of acute abdominal crisis, whatever the cause of the attack may be—appendicitis, perforated gastric ulcer, a twisted ovarian pedicle, and numerous other conditions, are all characterized in the early stage by this triad of symptoms, for which Treves suggested the term "peritonism." Under such circumstances, however, we have not to wait long, as a rule, before the localization of pain and tenderness lead to a sufficient diagnosis of the case for the purposes of treatment. If the vomiting is produced by one of the many forms of intestinal obstruction, the retracted and rigid abdomen of the commencement of the attack is soon replaced by a gradually increasing abdominal distension; and the same is true of many cases of perforative peritonitis. It is not desirable to wait for this abdominal distension in cases where the diagnosis is clear; and I have always found it to be a safe surgical practice to open the abdomen without delay in cases of doubtful diagnosis where the vomiting is associated with a gradually

increasing tympanites. All rules, however, have their exceptions, and notably in the case of obstruction due to intussusception meteorism is generally absent; but the diagnosis of many of these cases is made sufficiently evident by the existence of a tumour, which hardens under the hand, in association with attacks of pain and the passage of bloody mucus.

OPERATIONS ON THE OVARIES AND FALLOPIAN TUBES.

To turn to the various operations, we take first those on the ovaries and Fallopian tubes. Of these there were 101, namely, 58 cases of ovarian adenocystoma and parovarian cyst, and 45 cases of solid ovarian tumour and disease of the Fallopian tubes requiring salpingo-oophorectomy. In 6 cases the ovarian adenocystoma was double, once the cyst was ruptured, as the result of a fall, in the case of a young lady in whom no previous disease was suspected, two of the tumours were of the nature of "dermoids" and one of these "dermoids" was associated with an ovarian adenocystoma of the same (left) side. This case was only 15 years of age, and it is remarkable that I had previously removed an ovarian adenocystoma from the sister of this patient at 20 years of age. One case of adenocystoma was associated with a milky fluid in each breast, though there were no other signs of pregnancy, and another produced so much intra-abdominal pressure that the uterus was extruded.¹

Attacks of pain and vomiting, especially if accompanied by collapse, in association with ovarian cysts are frequently dependent upon twisting of the pedicle. Such symptoms are of serious import, for unless relief is speedily afforded by operation death from peritonitis may follow. In fact, the occurrence of peritonitis in connexion with an ovarian adenocystoma should always be regarded as dangerous, and operative interference should be instituted without delay.

Four of the cases proved to be adenocarcinomata of the ovary, and one was a papilloma which infiltrated the deeper tissues. It is advisable to submit all cases to microscopical examination, for, as Kelly says, it is desirable to regard all ovarian tumours as malignant until removed and proved otherwise. Rapid growth and the presence of a blood-stained peritoneal fluid are always suggestive of malignancy.

Solid tumours (fibromata) of the ovary are usually characterized by free mobility. They often cause an amount of pain which is quite disproportionate to the size of the tumour, and may be associated with some peritoneal effusion, both probably due to the twisting of the pedicle.

On the subject of ovariectomy I merely wish to remind you that it is desirable to put a second ligature on the stump after the tumour has been removed. Though some operators do not consider it necessary, I invariably put a double ligature on all structures in the abdomen and pelvis that have been ligatured before being cut away, the second ligature being applied after the division of the tissues.

The cases treated by salpingo-oophorectomy include chronic inflammatory conditions of the Fallopian tube and ovary, abscess of tube and ovary, or both, and tuberculous disease. The operation was frequently bilateral, and sometimes associated with appendicectomy.

The performance of salpingo-oophorectomy in cases of chronic tubal and ovarian inflammation, pyosalpinx, and other allied conditions is often one of great difficulty from the complexity of adhesions; and there are few abdominal operations requiring greater judgement in deciding on the need for operation, and in dealing with the difficulties of its performance, than those associated with tubo-ovarian inflammation. Many cases of pus formation in tubes and ovaries are due to gonorrhoeal infection, or to a streptococcal infection after parturition or abortion; but the baneful effect of appendicitis upon the female generative organs is perhaps not so fully recognized as its importance deserves. From the appendix the *Bacillus coli communis* may easily travel to the ovary and tube and produce abscesses or chronic inflammatory mischief in these structures, or give rise to inflammatory cysts in the broad ligament. In some acute cases of tubal and ovarian abscess the abscess may burst into the vagina, rectum, or bladder, and the patient may spontaneously recover. In other cases it may burst into the general peritoneal cavity, and is then best treated

by abdomino-vaginal drainage, which has a large field of application in "pelvic abscess" in the female, whether the abscess is a result of a burst tubo-ovarian abscess, appendicitis, or other cause; and in cases where an abdominal section discloses the existence of an extensive abscess deeply burrowing among the pelvic viscera, I cannot speak too highly of its value. Whether abdomino-vaginal drainage is adopted or not, the body of the patient should be raised in all cases associated with a widespread septic peritonitis, for by this means there is a tendency for the inflammation to be confined to the pelvis, where its effects are less serious than when the upper part of the peritoneal cavity is affected. I do not wish you to suppose that every case of abscess of the tube and ovary is treated by abdominal section and enucleation. Some are better treated by vaginal incision, but of these I am not now speaking, nor do I wish you to suppose that every case of chronic inflammation of ovary and tube requires the operation of salpingo-oophorectomy. We must in the more chronic cases be guided by the severity and frequency of the attacks of pelvic inflammation which the condition causes; for though it is not desirable to perform salpingo-oophorectomy in all cases of chronic inflammation of the tubes, we must remember that, as in appendicitis, the attacks tend to recur as long as the focus of mischief remains in the abdomen.

OPERATIONS ON THE UTERUS AND BROAD LIGAMENTS.

Of the 75 operations on the uterus and broad ligaments, there were 33 hysteromyomectomies and 14 myomectomies for uterine myofibroma, 10 hysterectomies for carcinoma of the uterus, 7 cases of hysteropexy, 3 of ruptured tubal pregnancy, and 7 cases of cystic, and 1 of solid, tumour of the broad ligaments.

Although Noble has shown that about 16 per cent. of women having fibroid tumours would die if not operated on because of the degenerations and complications arising in the tumour or in the uterus, I do not advise the removal of all myo-fibromatous tumours of the uterus, as I think more lives will be saved by a judicious selection of cases for operation.

Before considering the indications for operation it is desirable to point out that a great deal of misunderstanding exists as regards the influence of the menopause on myofibromata; women are so often led to suppose that when once the "change of life" occurs all their troubles will cease, and much valuable time is thus often lost by relying upon a false hope. Not only is the menopause often delayed for some eight or ten years at least, but in many cases the tumour grows more rapidly at the time when it is usually supposed that a diminution in size may be expected.

The mere size of the tumour may, under certain circumstances, afford a sufficient indication for operative interference. A comfortable existence is scarcely possible in many of these cases, and though in the more wealthy classes a life of chronic invalidism may be preferred, in others, where a necessary wage-earning capacity is seriously interfered with, an operation is desirable. Haemorrhage is one of the commonest symptoms of myofibromata, and is also one of the most important indications for operation, on account of the insidious way in which the patient's health and strength are gradually undermined by its repetition. If the haemorrhage is not amenable to curettage, or other simple means, operation should be advised when the patient ceases to regain in the intervals the loss of strength incidental to the excessive flow at the periods. Delay means further prostration, and jeopardizes the successful result of the removal of the tumour. The development of pain in a case which has hitherto caused no trouble, or any marked increase of pain generally indicates the necessity of a radical operation; and a rapid enlargement of the tumour, especially if associated with pain, may almost certainly be regarded as demanding operative treatment, for such symptoms are usually indicative of serious degenerative changes in the tumour itself. Further indications for operation are afforded by pressure effects of the tumour on the bladder, rectum, sacral nerves, and other structures, some of the worst symptoms being produced by the smaller tumours incarcerated in the pelvis, and prevented from expansion upwards by the sacral prominence.

Myomectomy is the operation of choice in young women, provided that the general condition is fairly

satisfactory, that the tumour does not extend much above the umbilicus, and that there are no important complications, such as severe inflammatory disease of the tubes and ovaries or advanced anaemia. Within proper limits this operation of shelling out the tumour should always be adopted, as by this means the functional activity of the uterus is unimpaired. In cases where myomectomy is undesirable I prefer the operation of retroperitoneal hysteromyomectomy rather than the so-called panhysteromyomectomy. When the myofibroma is associated with malignant disease, nothing short of the removal of the whole uterus and tumour would be advisable; whereas, in ordinary uncomplicated cases of hysteromyomectomy, I can see no reason for the excision of any more of the uterus and tumour than is included in the supravaginal operation of retroperitoneal hysteromyomectomy. Though the last-mentioned operation is regarded as the method of election, the complete removal of the uterus is sometimes preferable for various reasons at the time of operation, and of the 33 hysteromyomectomies for myofibroma, the whole uterus ("panhysteromyomectomy") was removed five times.

The operation of hysterectomy for cancer is very unsatisfactory in its remote results. Of the 10 cases here recorded 2 are known to be free from recurrence at a period of more than three years since operation, 2 others remain free at rather less than two years since operation, 4 are known to have recurred, 1 died soon after operation, and 1 was lost sight of and the result is unknown. Good results are obtainable in cases that come early, but there is a great amount of ignorance amongst women as regards the early symptoms of carcinoma of the uterus, and this, combined with the natural insidiousness of the disease, determines the fact that in about 4 cases out of 5 we have to decline a radical operation. For cases diagnosed early, I believe that colpo-hysterectomy is the best operation, and 9 of the 10 cases were so treated. Abdominal hysterectomy offers certain advantages—we can cut more widely of the disease, and the sacral glands can be removed, bringing the operation into line with operations for cancer in other parts of the body; but practically the results are not so good as in cases of colpo-hysterectomy, where the primary mortality and incidence of recurrence are distinctly lower. We must be selective, for though colpo-hysterectomy is the best for early cases, there are others for which abdominal hysterectomy is more suitable, though at present it seems undesirable to adopt this latter operation as the routine procedure.

Little need be said of the comparatively simple operation of abdominal hysteropexy, which was performed in most cases for painful retroflexion uncontrollable by ordinary means. I prefer the abdominal route, because it enables the surgeon to deal with the adhesions that are not infrequently present.

Broad ligament tumours are fixed, more or less closely applied to the side of the uterus, and sessile because of their situation between the layers of the broad ligament. Seven were cystic and one was solid (myofibroma). Cysts are found in the mesosalpinx—that is, encapsuled between the two layers of the broad ligament which form a mesentery for the Fallopian tube above the level of the ovary. Fibromata and myofibromata have a capsule derived from the mesometrium—formed by the layers of the broad ligament below the level of the ovary. In the right understanding of the various anatomical forms of capsule lies the secret of conservative surgery of the uterine appendages. The capsule is opened and the tumour is shelled out of its connective tissue bed, and thus ovary and Fallopian tube can be preserved intact. It is quite wrong to perform salpingo-oophorectomy in such cases.

OPERATIONS ON LIVER AND BILE DUCTS.

Of the 49 operations upon the liver, gall bladder, and bile ducts, there were 3 cases of hepatotomy—1 for hydatid disease and 3 for abscess; 3 cases of hepatopexy; 26 cases of cholecystotomy, of which 18 were for gall stones; 9 cases of choledocholithotomy, in one of which it was necessary to open the duodenum to extract the stone from the ampulla of Vater; 1 case of cysticotomy for gall stones; 2 cases of cholecystenterostomy; and 4 cases of cholecystectomy, one of which was for malignant disease of the gall bladder in association with gall stones.

You will see how large a proportion of these cases is associated with the existence of gall stones, and to this subject I must chiefly confine my remarks. It may be helpful to tabulate some of the chief points which are worth noting in association with the gall bladder and its ducts: (1) A painless enlargement of the gall bladder without jaundice suggests catarrhal cholecystitis. (2) A painful enlargement of the gall bladder without jaundice suggests an "empyema" of the gall bladder; but it must be borne in mind that a suppurative cholecystitis may exist without a palpable swelling, as a gall bladder which has been repeatedly inflamed may not be capable of much distension. (3) A painless swelling of the gall bladder with jaundice is in favour of an obstruction of the common duct by a tumour (malignant). (4) Remittent jaundice, generally without an enlarged gall bladder, accompanied by chills and pain, occurs with stone in the common duct. (5) Jaundice is a less common symptom in cholelithiasis than is usually supposed. Kehr says it is absent in 80 per cent. of cases.

The differential diagnosis of three conditions associated with jaundice—stone in the common duct, pressure on the duct from tumours (malignant disease), and chronic pancreatitis—is beset with considerable difficulty, so that it is necessary at times to advocate an exploratory incision for the purpose of clearing up the matter.

When one sees the late results of gall stones—such as empyema, cholangitis, perforation, and impaction of stones in the choledochus, all of which are associated with a high rate of mortality, the surgeon is justified in his anxiety to operate while the gall stones are in the gall bladder, when the mortality is very low. By this suggestion of early operation, it is not to be understood that I am advocating operation in every case of gall stones. In mild and infrequent attacks of cholecystitis, the question of operation would scarcely arise; but if the gall bladder is enlarged, an operation should be recommended, though the case may be otherwise of a mild type. Even with frequent and severe attacks of colic associated with the passage of small calculi, an operation is unnecessary so long as the stones continue to pass. Operation is indicated if the frequent attacks of colic cease to be attended with the expulsion of calculi. In acute obstruction of the common duct, operations should not be performed, as such cases not infrequently get well under expectant treatment. If, however, the jaundice persists for some five or six weeks, or if symptoms of cholangitis—as shown by rigors, intermittent fever, etc.—supervene, operation is desirable. In old patients, and those suffering from organic disease of the heart, lungs, or kidneys, operation is rarely justifiable, and should only be undertaken on account of the development of some grave condition associated with the gall stones. On the other hand, operation should be advocated in cases of severe colic, incapacitating the patient from the necessary duties of life. In all cases of enlarged gall bladder, whether painful or not, and whether accompanied by jaundice or not, operation is the safest course to pursue. The occurrence of acute diffuse peritonitis in the neighbourhood of the gall bladder requires immediate operation, for it may be associated with acute phlegmonous inflammation of the gall bladder, or perforation of the gall bladder or ducts.

I am not persuaded of the desirability of performing cholecystectomy as a routine measure in the operative treatment of cholelithiasis, as advocated by many surgeons in America and elsewhere. Recurrence of gall stones after operation can, I think, rarely occur—I have not yet met with such a case—and if they did recur, it is preferable that they should do so in the gall bladder rather than in the common duct. I do not, therefore, think that the argument in favour of cholecystectomy as a prevention of recurrence of gall stones is a strong one. The wounds, however, heal more rapidly than in ordinary cases of cholecystotomy; and if it can be shown that the mortality is less, it will doubtless be the operation of the future in suitable cases. At present I have not performed cholecystectomy except for carcinoma of the gall bladder, permanent blocking of the cystic duct, and in an atrophic gall bladder which could not easily be dealt with in any other way.

OPERATIONS ON THE KIDNEY.

Of the 65 operations on the kidney there were 28 cases of nephropexy for movable kidney, 19 cases of nephrotomy, 7 of nephrolithotomy, 10 of nephrectomy, and 1 of

operation for ruptured kidney. I only wish to speak now of nephropexy for movable kidney, for in this I think it possible that the surgical pendulum has swung too far, and a more careful discrimination of cases suitable for operation is necessary. Many cases of pathological mobility of the kidney give rise to no symptoms whatever, and of those that do give rise to symptoms distinctly referable to the renal mobility probably at least two-thirds are better treated by some form of belt than by operative fixation. In all cases, except, perhaps, those associated with some form of kidney degeneration, a belt should be tried, and in many cases of movable kidney, accompanied by hysterical and neurasthenic symptoms, a belt is the only justifiable form of treatment. It is in cases of movable kidney in association with displacement of other organs (splanchnoptosis) that neurasthenic and hysterical symptoms are common, and then there is a double cause of a possible failure of the cure of the symptoms by operative procedure, which is most often very unsatisfactory in these cases.

In general terms, it may be stated that nephropexy is more likely to relieve painful symptoms than nervous phenomena. The need for operation is the urgency of the case. When belts fail operative measures are indicated in healthy adults in whom a freely mobile kidney is associated with symptoms of gastric crises or of torsion of the renal vessels. Under such circumstances operation may be undertaken with every hope of a satisfactory result. The occurrence of hydronephrosis with movable kidney may be regarded as necessitating surgical interference. Hydronephrosis implies kidney degeneration, and the condition tends to get worse the longer operation is delayed. The presence, however, of such degenerative changes renders operation more dangerous.

OPERATIONS FOR HERNIA.

Of the 127 operations for hernia, 40 were strangulated and 87 were "radical cures" deliberately undertaken without the presence of strangulation. Of the strangulated hernia 17 were inguinal—1 of which had 18 in. of gangrenous gut; 19 were femoral—2 of which were "Richter's hernia"; and 4 were umbilical. Of the "radical cures" 69 were inguinal—4 of which were double, and 1 contained an ovary; 6 were femoral; 5 were umbilical, and 7 were ventral herniae.

The operation of radical cure of hernia is so safe—not one of the 87 cases died—that I think any sound young adult is entitled to prefer operation to the continued use of a truss. Though there are many excellent operations, I regard a modification of Kocher's method as by far the best for the ordinary run of cases, Bassini's method being reserved for the larger herniae of old standing with a widely dilated external ring.

OPERATIONS FOR APPENDICITIS.

There were 84 cases of operations for appendicitis during an attack, most of which were suppurative or gangrenous; and 149 cases of appendicectomy in "interval cases." Appendicectomy was also performed in 49 of the cases operated upon during an attack, the rest being treated by drainage only.

There is no need to dilate on so trite a subject as appendicitis; but I should like to state that I have come to the conclusion that the difficulty of gauging the actual pathological condition in a case of severe appendicitis is so great that I think it wiser to operate early—before the third day—in such cases, unless they speedily show signs of improvement after the first twenty-four hours. Another point upon which I have in recent years altered my practice is that I now invariably endeavour to remove the appendix in any case of operation for acute appendicitis, unless I think that by so doing I shall be adding to the patient's risk. If there are no other contraindications I have no fear of any harm resulting from opening the general peritoneal cavity in cases of suppurative or gangrenous appendicitis, and in many instances my search for the appendix has resulted in its discovery in a disorganized condition. I am convinced that the removal of the focus of mischief is highly desirable in these cases: it hastens the convalescence, prevents any further mischief, and is, I believe, associated with a lower mortality than simple drainage in most instances.

OTHER OPERATIONS ON THE INTESTINES.

The rest of the operations on the intestines amounted to 99. Of these, there were 43 cases of colotomy and 18 of enterotomy, 12 cases of colectomy and 2 of enterectomy, 14 cases of enterorrhaphy and colorrhaphy, 4 cases of ileo-colostomy, 4 operations for intussusception, and 2 for obstruction due to peritoneal bands.

Nearly all of these cases were associated with intestinal obstruction, which is the bugbear of abdominal surgery. The difficulty of a sufficiently certain diagnosis in an early stage of acute intestinal obstruction, and the nature of the lesion, render all such cases extremely dangerous; yet the only means of reducing the terrible mortality associated with this condition is by early operation—within twenty-four hours of the onset if possible—for it may safely be said that in all cases of complete and acute obstruction the chances of recovery rapidly diminish for every hour that operation is delayed after the diagnosis is established. Continuous pain and vomiting for forty-eight hours, accompanied of necessity by the deprivation of food, may so reduce the strength of the patient that the surgeon is unable to make that systematic examination of the contents of the abdomen which these cases frequently necessitate.

In the performance of intestinal resection I always prefer the use of simple suture to that of mechanical appliances, and of all intestinal sutures—and their number is large—I know none better or more generally applicable than Halsted's quilt suture. For direct end-to-end union, however, the O'Connell suture is very good. Only occasionally, where time is of great importance, do I employ apparatus, and of these the O'Hara forceps and Murphy button are the best.

In early cases of malignant disease of the intestine the ideal method of treatment is that of resection and simple suture of the divided ends, but if intestinal obstruction be present the resection must be performed in two stages, for the resisting power of the patient is so small under these circumstances that immediate union of the resected gut is attended with a very high mortality. The obstruction should be relieved by bringing a loop of intestine to the surface with the tumour and inserting a Paul's tube in the distended gut above the tumour at the first operation; and enterectomy or colectomy, with immediate union of the divided bowel, should be performed at the second operation a week or ten days later. I have successfully operated in this manner in a patient of the age of 78 years.

Colotomy for irremovable malignant disease of the large gut is an unsatisfactory operation at the best. The patient is frequently in the last stage of a mortal disease, and operation under the usual conditions is as likely to hasten as to put off the inevitably fatal issue. Where the disease cannot be removed completely, a palliative operation like colotomy should be performed before the patient is exhausted by the absorption of toxic products from intestinal accumulation; but, whenever possible, a "short circuit" (ileo-colostomy) should be preferred, as this is less distressing to the patient than an artificial anus.

OPERATIONS ON THE STOMACH.

Of the 27 operations on the stomach there were 14 cases of gastro-jejunostomy, 5 of gastrectomy, 6 operations for perforating ulcer of the stomach or duodenum, 1 case of pylorotomy, and 1 of gastrectomy (two-thirds of the stomach removed). I have always performed the posterior operation of gastro-jejunostomy, and in cases where the stomach is dilated, as frequently happens, it is the best method, because it secures excellent drainage. In other cases, provided the duodenum can be freed, Kocher's lateral gastro-duodenostomy is likely, in the future, to be adopted as a routine measure.

Gastrorrhaphy for perforating ulcer is most successful when performed within twelve hours of the perforation. After this period the mortality rapidly increases, so that it is highly desirable to proceed to operation as soon as possible after the diagnosis has been made.

Frank's method of gastrectomy is the one I usually adopt. This operation can be performed quickly, and ensures against leakage of gastric juice. The patient can also be fed at once, and this is of great importance, as in cases of malignant disease of the oesophagus the operation is too frequently delayed until the vitality of the sufferer is at a low ebb.

AFTER-TREATMENT.

The time at my disposal has not allowed me to do more than to speak cursorily of the more common affections met with in abdominal surgery, and I have not dealt with any of the rarer conditions which one must be prepared to encounter. We may now consider the after-treatment.

A pillow placed under the knees relieves the strain of the abdominal muscles; and the patient may, with advantage in most cases, be tilted to one or other side by placing pillows behind the shoulders and buttocks. This often gives great relief from the aching in the back which is so common in these cases. The pain of abdominal operations is not usually great, and in most of them no anodyne is necessary; but when pain is severe morphine may be given during the first twenty-four hours. After that period no morphine is allowed, for unless the case is not doing well, pain at this time is nearly always due to flatulence, and the best remedy for this is a turpentine enema. The relief from pain and distension is so marked after the administration of a turpentine enema that it may well be regarded as the "sheet anchor" of the after-treatment of abdominal operations. It may be repeated night and morning if necessary. In any case it is desirable to give an enema on the morning of the third day, and a purgative by the mouth on the third night, after operation, if the bowels have not previously acted. Should there be any suspicion of the onset of peritonitis, a dose of calomel should be given, followed by the administration of 2-drachm doses of sulphate of soda every hour until purgation is effected.

I prefer cases of operation on the stomach to have nothing by the mouth for twenty-four hours at least, if possible; but in other cases hot water may be given by the mouth whether there is vomiting or not. It relieves the thirst which nearly always occurs after abdominal section, and helps to stop vomiting better than any other remedy. It should be given very hot, and in tablespoonful doses, three or four times an hour, if necessary. I consider it a needless cruelty to prolong the sufferings which the patient endures from an intense craving for fluids. In cases of extreme thirst half a pint of water may also be given two or three times a day by the rectum, and retained. If there is vomiting, nothing but hot water should be allowed by the mouth, but when the vomiting continues for a long time this may sometimes be advantageously supplemented by small quantities of dry champagne. Under these circumstances the strength should be supported by the administration of nutrient enemata consisting of half an ounce of brandy, a teaspoonful of some beef essence, and made up to four ounces with peptonized milk. These should be given every four hours, and before each enema is injected (and for this purpose a tube and funnel are best) the rectal tube should be worn for a quarter of an hour to allow of the expulsion of flatus. One of the best signs of recovery from shock is the power of expelling flatus voluntarily, and where this has been gained, cases practically always do well. If the anaesthetic vomiting passes off quickly, water gruel, followed by Benger's food or peptonized cocoa, may be given in small quantities during the first twenty-four hours. No raw milk should be allowed; it forms a coagulated mass which upsets the majority of patients. On the second day tea, bread and butter, toast, custard pudding, junket, and grapes may be allowed, but the quantities should be limited. On the third or fourth day, if the bowels have acted, a little fish may be given, and thereafter the diet may be gradually improved in quantity and quality. The patient's feelings serve as an excellent guide to the amount and character of the food taken, and in the early days it is not wise to force food upon an unwilling patient.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, August 14th, 1897.

THE late Mr. Simeon Lazarus, of Bournemouth, who died on October 11th, 1906, left £50 each to the London Hospital, the Brompton Consumption Hospital, the City of London Hospital for Diseases of the Chest, and the Jewish Hospital for Incurables, and £25 each to the Royal Hospital for Incurables and the Cancer Hospital.

UNDER the will of the late Miss Martha Axford of Ealing, who died on October 20th, 1906, St. Mary's Hospital, Paddington, the Friedenheim Home for the Dying, and the Mildmay Mission Hospital, Bethnal Green, each receives a sum of £200.

THE CLAIM OF THE SURGEON TO CONDUCT THE AFTER-TREATMENT OF OPERATION CASES:

WITH SOME REMARKS ON POSITION, AND FLATULENT
DISTENSION, AFTER ABDOMINAL OPERATION.*

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I SHOULD be very sorry to think that the title of my paper† should suggest to the mind of any one, that I think post-operative treatment should, as a rule, be handed over by the operator to any one else or even shared with another. But there are conditions in which, unfortunately, this must be so, and, therefore, I should like to draw your attention to two important matters in connexion with the treatment of cases after abdominal operations. Before doing so, however, I will spend a few minutes in pleading for the operating surgeon that he shall be allowed to conduct his own after-treatment whenever possible.

THE DIRECTION OF THE TREATMENT.

I think the only reasonable view we can take of the matter is that the medical practitioner who has been in charge of the case up to the time the operation is performed should hand over the treatment entirely to the surgeon who has taken the responsibility of operating, for the success or failure of an operation may to a large extent depend on the after-treatment.

Let me appeal to you in this way. If you have a very anxious midwifery case, and have perhaps had to turn, and had trouble from haemorrhage, or fear it, would you care to hand over the care of that patient to any other medical man? Suppose, now, you were a practitioner of special experience in that branch of work, and had in consequence been requested to take charge of the labour, would it fair to your patient to hand over the after-treatment to another practitioner with less knowledge and experience of such work? Again, suppose that instead of being a medical practitioner you were a watch repairer, and something had gone wrong with a watch brought to you for repair, which required work of a very special kind you were not accustomed to and had received no special training for, and you passed on that watch to another worker who possessed the special skill, would it be right for you to demand back that watch to regulate it instead of leaving it under the care of the specially-skilled worker until he considers it is going quite well? I need not reply to such a question. And yet sometimes objection is raised if the surgeon conducts the after-treatment of cases he has operated on himself. The practitioner feels a sort of possession in his patient and regards the surgeon as robbing him of his patient if he does more than the actual operation. But surely the surgeon who has undertaken so important and responsible a part of the treatment as an operation may justly regard the patient as his until the after-treatment of the operation is at an end. I do wish we surgeons could only get some of our friends amongst the general practitioners to see that we do not wish to conduct the after-treatment in these cases in order to make larger fees. As a rule we do not make larger fees in this way; it is only in cases in which we have to spend a considerable time in making lengthy journeys to reach our patient that the after-treatment is considered in the fee at all. But supposing it were, I still think that it is as much the surgeon's work as the actual operation, and he would, therefore, be entitled to remuneration for it. It is a well-recognized principle in hospital practice that when a surgeon operates on a case he conducts the after-treatment, and if the patient has been under a physician in a medical ward up to the time of operation, he is transferred to the surgeon's ward after. Unfortunately, some medical men cannot see that this is the right line to adopt in private practice also, though the lay mind, untrammelled by any idea as to the possession of the patient, at once grasps the right principle—that the one

* A paper read at a meeting of the Bath and Bristol Branch of the British Medical Association.

† The original title was "The Treatment of Cases after Abdominal Operations."