was no longer heard over the manubrium, and all that remained at the base of the right lung was a scarcely recognisable impairment of resonance and of respiratory murmur.

As I have discussed each phase of the illness in the order of its occurrence, no formal commentary on the case as a whole is necessary, but I must not conclude without an acknowledgment of the zealous and intelligent co-operation of Dr. Raven.

ABDOMINAL SECTION AS A MEDICAL MEASURE.

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I MIGHT be permitted, at the outset of this paper, to offer some explanation of its title. The President, when he did me the honour of asking me to read this communication, suggested that the subject should be "Abdominal Operations in Medical Cases." I was a little afraid to adopt this reading owing to some uncertainty as to what constituted a medical case. Surgery has of late years rather aggressively extended its boundaries, and the map of the human body, which was at one time precisely divided into medical and surgical territories—to the great advantage of medicine—has recently been much modified by the aggressions of the descendant of the barber. Although the surgeon is still in awe of the stethoscope his profane fingers have invaded the abdomen, the sacred thorax, and the brain. It is a question if even the pineal body, which as the reputed seat of the soul must be a purely medical district, is really immune from what is rather rudely called "surgical interference."

The difficulty of properly defining a medical case has therefore led to the present title. I may add in further explanation that I understand the President's wish to be that I should deal with such surgical measures in abdominal disease as appear to act upon the patient through other than accepted surgical lines; and, further, that attention should be drawn to matters incident to abdominal operations which are likely to be of interest to the physician. That a paper with such an object must be fragmentary and rambling is, I am afraid, inevitable.

The first cases to which I would direct attention are those in which the mere opening of the abdominal cavity appears to effect, in spite of all surgical prejudices, either the cure of a disease or at least its temporary amelioration. Prominent among these conditions stands tuberculous peritonitis. The results of the treatment of this disease by simple incision have been little short of miraculous. The large series of collected cases—that compiled by Aldibert—deals with 308 examples of this form of peritonitis treated by operation, and shows a percentage of cures estimated at 69.8 per cent., of which number 33 4 per cent. may be regarded as complete recoveries. An examination of this record shows that the most favourable results on the whole have been those attending the mere opening of the abdomen. This practically applies to generalised peritonitis without suppuration, and to the non-suppurative encysted forms. In a certain series of instances the diagnosis has been made of an ovarian cyst or of some other such growth. The surgeon has proceeded to open the abdomen, to remove the hypothetical tumour; has discovered simply tuberculous peritonitis, has hastily closed the incision, and has therapeutically fled. In due course he has heard, to his amazement, that the patient has made an excellent recovery. In a certain number of the recorded operations the peritoneal cavity has been washed out or drained, or into the inflamed area has been introduced some such medicament as iodoform. In these instances some better result might be anticipated, inasmuch as the operation has been a little more full of purpose and more in accord with the surgical habit in dealing with inflammatory affections; but, strange as it may appear, these more elaborate measures have, except in suppurative cases, not been attended with such good results as have followed the mere incision made by mistake. Indeed, the incision made by mistake can claim some of the most brilliant achievements of surgery in connection with tuberculous peritonitis.

Some of the more extreme of the cases can excite nothing but amazement. Not long ago I was operating upon a cachectic patient—a young man—who was suffering from chronic perityphlitis. There was a strong suggestion of a tuberculous element in the case. I started with the intention of removing the vermiform appendix, but found that much-sought-after organ imbedded in a mass of adhesions which had implicated other viscera. Its removal would have involved an operation of considerable duration and difficulty. Moreover, the adjacent peritoneum so far as the fingers could reach was covered with advanced tuberculous deposits. It seemed utterly futile, in the face of this grave condition, to persist in the attempt to remove the appendix. The abdomen was therefore closed, and the patient's friends were told that the condition was beyond the reach of a reasonable operation. The man made a perfect recovery; his abdominal symptoms vanished, and when I heard of him some months after, he had returned to his work as a shop assistant. How such operations act it is impossible to say. It is assumed by some that the beneficial effect is due to the admission of light into the abdomen. This is hard to believe, and it is possible that a satisfactory answer to the problem will be furnished when we know more of the degree and effect of intra-abdominal pressure.

As a further illustration of the unknown power of a simple abdominal incision, I might allude to a case of pylephlebitis which I reported some four years ago.[1]

The patient was a young girl, aged 15, who was recovering from a sharp attack of perityphlitis, the acute manifestations of which had practically subsided by the seventh day. On the eighth day she had a rigor, and the temperature rose from normal to 103°. From that time the temperature kept high, reaching 104.4°, and almost every day the patient had an exhausting rigor. There was great prostration, vomiting, delirium, enlargement of the liver, and pain over the hepatic region. The symptoms resembled those of abscess of the liver, and as the child was becoming steadily worse, I was asked to make an exploratory incision in search of pus. This I did on the thirty-first day of the disease. The liver was very much enlarged, and was remarkably soft to the touch—as soft almost as the lung. It was dotted all over with minute yellow specks and presented the appearance met with in suppurative pylephlebitis. I considered the case quite hopeless, and closed the wound. The child never had another rigor, and made a rapid and perfect recovery. Yet she was so ill at the time of the operation that it seemed scarcely worth while to make even an exploratory incision. How this strange recovery is to be explained I am at a loss to say.

Another series of cases belonging to the present category is represented by those in which a mere incision into the peritoneal cavity has led to the rapid shrinking of certain malignant growths and to the temporary improvement of the patients. These cases must have come within the experience of all surgeons. In most instances a tumour of doubtful nature has been discovered, the abdomen has been opened, the growth has proved to be sarcoma, and nothing has been done. After the operation the mass has dwindled in size, and, in some recorded instances, seems to have vanished, certainly for a time. I have met with instances of this character in which sarcomatous tumours of the peritoneum or retro-peritoneal sarcomata have undergone most remarkable diminution in size. In one instance, in a young man of 25, a retro-peritoneal sarcoma the size of two fists became so reduced after a mere abdominal incision that it was scarcely to be felt, and some three months elapsed before the growth began to increase again. After this it rapidly led to the patient's death. In another example I some years ago performed laparotomy in a doubtful case of obstruction of the pylorus. A malignant growth of the pylorus was discovered. It was impossible to remove it—the operation of gastro-enterostomy had not then been perfected—and the abdomen was closed, the case being regarded as hopeless. The patient's symptoms vanished, the distension and sickness disappeared, his appetite returned, and he was actually able to return after a short period to his duties as a gate porter. It is needless to say that in due course the symptoms of the disease reasserted themselves and led to the patient's death.

Another series of cases in which relief unexpectedly follows abdominal section, with or without some further operative procedure, is illustrated by the large class of cases somewhat hopelessly styled nervous. These may be divided into two categories: those in which the symptoms of well-recognised diseases are imitated, and those in which the clinical phenomena are simply bizarre and fantastic. Of the former class of cases two examples may be given.

I was asked to operate upon a middle-aged lady, who had already had personal experience of surgery, and who for some twelve months had been invalided owing to an abdominal condition which was spoken of as "chronic perityphlitis." There was pain in the right iliac fossa, great difficulty with the bowels, occasional vomiting, and always very acute tenderness over the situation of the appendix. It is noteworthy that this tenderness was purely superficial, and appeared to be a matter of the skin. So intense was it, however, that no satisfactory examination of the right iliac fossa could be made. The patient's health was impaired by long confinement and by the constant use of hypnotics. So long as she remained motionless in bed no great trouble was complained of, but as soon as she attempted to get up, or even sit up, the pain returned in the same place. These symptoms were associated with phenomena of exhaustion, depression, and other expressions of the so-called neurotic state. All medical measures had failed, and it appeared that the only possibility of saving the patient from a career of chronic invalidism lay in an abdominal exploration. She herself was convinced that she had a diseased appendix, and with the symptoms produced by that trouble she was remarkably familiar. I made an incision in the right iliac fossa and found nothing abnormal. I considered it discreet to remove the appendix for other than surgical reasons. This structure, when examined after removal, proved to be absolutely free from any suspicion of disease. The patient's symptoms all left her, she discontinued the use of hypnotics, her nervous troubles vanished, and she made a perfect recovery.

Another example of somewhat like character is afforded by a young lady, some 25 years of age. She also was familiar with the troubles incident to a diseased appendix. She suffered from extreme constipation, and the abdomen was constantly tympanitic. There was occasional vomiting and marked anorexia. So hyper-sensitive was the skin over the right iliac fossa that no detailed examination without an anæsthetic could be made. She appeared greatly prostrated, would lie for hours in a state of apparent stupor, and, at the time when I saw her, she had been confined to her bed for some months. Examination under an anæsthetic was consented to only on condition that any diseased organ discovered should there and then be dealt with. Under ether, examination of the right iliac fossa revealed nothing abnormal, but in face of the distressing and hopeless condition into which the patient had drifted, it was considered politic to make an exploratory incision. This was carried out in the right semilunar line. All the organs within reach were free of any traces of disease. It seemed desirable, or at least politic, for the same reasons which held good in the previous case, that the appendix should be removed. After removal, a minute examination revealed no disease in any part of it. The patient made a rapid and complete recovery, and lost all evidences of her long-continued nervous condition.

As an extreme instance of the second class of cases in which the symptoms conform to the manifestations of no known disease the following example may be given. The patient was a woman, aged 24, who was admitted into the London Hospital under my care on February 5th, 1897. The following was her somewhat exceptional history: She had been quite well until twelve months before admission. A year ago she had been seized with violent pain of a paroxysmal character in the left side of the abdomen. This pain lasted some two or three hours, and came on, as a rule, twice a day. The bowels became very confined, and five months before admission she was seized with fæcal vomiting. Previous to the onset of this vomiting no action of the bowels of any kind had taken place for four weeks. She was admitted into a metropolitan hospital, and the abdomen was opened. Nothing abnormal was found. For a week after the operation she was perfectly relieved of all her symptoms; at the end of that time the symptoms of intestinal obstruction, with fæcal vomiting and rise of temperature, returned; it was then noticed that injections given by the rectum were returned almost immediately by the mouth. It was assumed that some fistulous communication existed between the stomach and the colon. A second abdominal section was therefore carried out; the stomach itself was opened; no kind of communication between it and the bowel was discovered, and both viscera were free of adhesions. As after her discharge from the hospital her symptoms of obstruction, with pain, fever, and vomiting, still continued, she sought admission into the London Hospital. Shortly after admission she exhibited definite hysterical attacks. She had, by some means, acquired the power of causing the mercury in the clinical thermometer to rise to the limits of the instrument. One medical man who had attended her, wrote to say he had recorded a temperature of 110°. No action of the bowels could be obtained. She would howl with pain for hours. All food taken by the mouth was vomited; nutrient enemata were given by the rectum, but they also were vomited. A careful investigation of this vomiting of enemata was carried out by my house-surgeon, Dr. Sears, with the aid of the sister of the ward. An enema of castor oil was given; within ten minutes from the time of the introduction of this drug into the rectum the whole of the castor oil, as demonstrated by actual measurement, was vomited from the mouth, together with a small scybalous mass. A few days later, in order to further test this phenomenon, an enema of one pint of water stained a deep colour by methylene blue, was injected into the rectum by the sister, in the presence of the house-surgeon. The whole of this enema, to the amount, that is, of one pint, was vomited by the mouth in ten minutes. I was extremely ill-disposed to carry out a third abdominal section. The only excuse for it was that while at the previous operations the stomach had been carefully examined, an equally detailed examination had not been made of the colon. As the patient resisted all forms of treatment, vomited all she took by the mouth, vomited nutrient enemata, and had no action of the bowels, and as she was becoming somewhat alarmingly feeble, I resolved once more to carry out an abdominal section as a forlorn hope. The abdomen was opened in the left semilunar line above the level of the umbilicus. The rectum and the whole length of the colon were examined with the greatest care and minuteness, and found to be absolutely normal. Some few adhesions existed around the scar of the wound in the stomach, but, with this exception, the abdominal cavity did not exhibit any trace of disease. The patient thought fit to be very ill after the operation; her respirations at one time reaching 140; she could not be induced to speak, and she went through all the popular phenomena of dying with startling effect. As these death-bed displays were not encouraged, she took finally to screaming, and became so intolerable in the ward that she was removed to an isolated room. The absence of an appreciative audience appeared to have an immediate effect upon her symptoms, for she soon ceased to complain, the bowels acted without difficulty, the vomiting ceased, the temperature remained normal, and before she left the hospital on March 19th she may be said to have been perfectly restored to health. The highest temperature she was able to develop while in the hospital was 109°. She had stated that she could produce this heroic fever by very slowly squeezing the bulb of the thermometer between her teeth. An attempt to produce this elevation of the mercury by the means indicated only led, however, to the destruction of two thermometers.

Beyond cases so extreme as this there are many others in which the patients suffer great distress, in which it is impossible to give any name to the disease, or to offer any explanation of the symptoms. That a great many of these cases are relieved, and indeed cured by abdominal section after all medical measures have failed must have been demonstrated by many. One lady, 27 years of age, who had for long exhibited symptoms of terrible abdominal pain, with constipation, vomiting, anorexia, and exquisite tenderness of a certain part of the abdomen, came under my notice when in a state of extreme exhaustion. No measures that had been devised had had any effect upon her symptoms. I somewhat reluctantly consented to make an exploratory incision, and made it over the seat of the pain—namely, just to the left of the umbilicus; nothing abnormal was discovered. The symptoms were in no way relieved by the operation. The patient declined all food, and vomited such as was introduced into the stomach by force. Nutrient enemata soon returned; pain was stated to be as intense as ever, and within a week or so of the performance of the operation the patient died. *Post-mortem* examination revealed no trace of

disease in any part of the abdominal cavity. In such an example as this it would appear that the disease is a disease of the nervous system or a disorder of the mind, and that the abdominal symptoms are no more substantial than are the ghosts which take part in the hallucinations of the insane.

There is a somewhat more definite form of abdominal trouble that may, I imagine, lay claim to the term "intestinal hypochondriasis." Many of the patients who are the victims of this condition are men—mostly men of middle age. Nearly all, if not all, have been the subjects of chronic colitis. They are apt to complain of fixed pain and tenderness at a spot a little below and to the left of the umbilicus. The spot indicated would be not far removed from the inferior mesenteric vessels and plexus. These patients suffer from troublesome constipation, from dyspeptic troubles, from sickening pain in the abdomen, and from infinite depression. Their whole mind is engrossed by the consideration of their bowels, and the contemplation of the concerns of their abdomens. They give elaborate accounts of the intestinal symptoms, and are prone to attempt to demonstrate that there is a narrowing of the bowel at the seat of the pain. In two instances which have come under my notice the patients were retired medical men, both of whom had had colitis, and no arguments that I could use could induce them to give up the idea that there was an actual stricture of the bowel just to the left of the umbilicus. In all these patients it is common to be able to feel through the parietes a contracted sigmoid flexure. There is no doubt, from the study of these and of similar cases, that the sigmoid flexure is a very irritable part of the alimentary canal. I have felt this portion of the bowel to contract under the fingers until it feels like a firm cord, about the width of a man's thumb. It is possible that, in these cases, long continued catarrh has led to a permanent state of irritability of the muscle forming the bowel wall, to a condition of abiding spasm, which may well cause pain and the sensations of obstruction.

As an illustration of this subject I may mention such a case as the following: A patient, 50 years of age, had had so long as he could remember a somewhat irritable condition of the colon. It had always been his habit to have an action of the bowels two to three times every day. After a while this condition was replaced by constipation, or at least by an indisposition for the intestines to act. Any action of the bowels was preceded by troublesome tenesmus and a sense of difficulty in emptying the rectum; much mucus was passed. Enemata acted better than aperients. Examination of the rectum revealed nothing abnormal. Through the abdominal parietes could be felt some 4 inches of the rigidly-contracted sigmoid flexure. It seemed as if the long over-stimulated bowel had at last passed into a condition of tonic spasm, spasm of such a degree that it scarcely admitted the contents of the bowel to pass along it. That such an interpretation is probable was shown by the fact that, on more than one occasion, in spite of the reputed constipation, quantities of fluid could be found to be present in the upper region of the bowel. This contraction of the sigmoid flexure may explain the tenesmus, the perpetual sense of uneasiness in the lower part of the bowel, the idea of cramp and of some obstacle to the passage of the contents of the gut, the impression that something has to come away. Certain of these cases are conspicuously relieved by opium, the opium acting distinctly as an aperient. Indeed, I should think they afford one of the best examples of the conditions under which opium has the effect of an aperient.

To leave these cases and to deal with others of a different character, it may be interesting to state the anatomical conditions which I have found in cases of obstinate constipation in which the abdomen has been opened. In certain of these cases the operation has been performed on account of constipation only, but in other instances the constipation has been merely a circumstance associated with other and more pressing disorders. It must be allowed that an operation for the relief of simple constipation, no matter how obstinate, is somewhat of a reflection upon the possibilities of medical treatment. The cases, however, in which surgical interference is necessary are certainly exceedingly few. They are represented by instances in which all ordinary measures to secure an action of the bowels seem destined to fail. Aperients of all kinds, in all doses, produce little effect beyond abdominal pain. Enemata of various sorts, administered in various positions, have uncertain results. The patient has become lethargic, despondent, and dyspeptic, and is the subject of a depressing series of nervous phenomena. His life centres around the inactive intestine; an anxious and intense importance attaches to the evacuation of the alimentary canal, and this simple physiological act becomes indued with extravagant responsibilities. It may be assumed that massage has been tried, that electricity has been made use of, that digestive remedies of all sorts have been employed, that every phase of diet has been tried, and that the patient has had resort to one or other of the many spas which have a reputation in connection with the cure of this disorder. After many months, or possibly years, of futile medical treatment, the patient's condition seems to his mind to be so hopeless, so utterly depressing, that the mere opening of the abdomen by an exploratory incision appears to him to be a measure not only of little moment, but one which he may heartily welcome. In certain of these cases I have found an exceptionally long sigmoid flexure, conforming more or less to the outline of a gigantic omega, lying helpless, ponderous, and inert in the hollow of the pelvis. It would seem in such cases as if the power of the patient's abdominal nervous system were insufficient to unfold this listless coil. Now and then the condition is aggravated by adhesions, or possibly by the pressure of a pelvic tumour. In other examples the transverse colon appears to be mainly in fault—it is unduly long, it is loaded, and is bent in the form of the letter V, so that its central portion reaches to the pelvic brim, or even enters into that cavity.

In another set of examples the sigmoid flexure is unduly short, and appears bound down to the margin of the pelvis. One can imagine that its very fixity encourages feebleness in its muscular tunic. Not infrequently one finds the peritoneum, which forms the sigmoid meso-colon, dense, thickened, and opaque. The cause of this condition of the serous membranes is hard to seek. Now and then the state of the membrane is such as to merit the term "peritonitis deformans," although independently of tuberculous gland disease this form of peritonitis has but a doubtful existence, and the condition which I have alluded to has, in my experience, been met with only in connection with the sigmoid flexure.

In more than one case of quite intractable constipation I have found the meso-colon throughout its entire length so enormously distended with fat that it was easy to imagine that the movement of a peristaltic wave along the bowel could be a matter of some difficulty. This development of fat is quite striking. It may or may not be associated with a like fatty deposit in the mesentery and omentum, and it may be found in patients who can in no sense be considered corpulent, and indeed in some who may be classified as thin. Finally, one has met with examples in which no explanation can be afforded other than that of atony, or general disorder in the action of the muscular apparatus of the bowel. The thin-walled bowel is distended with gas, or there is dilatation of the gut in one place and contraction in another.

As a matter which is incidentally connected with constipation, or at least with disturbance of the colon, I may mention a form of pelvic peritonitis, or more probably of pelvic cellulitis, which is very apt to give rise to difficulties of diagnosis. In connection with such cases, it is necessary to point out that inflammatory conditions of the intestinal wall may be transmitted to the tissues beyond the limits of the gut. Our knowledge of ulcerative processes in the colon, although much extended in recent years, is as yet by no means complete. Perforating ulcers may occur in the colon with very little, if any, antecedent suggestion of intestinal trouble. This fact is illustrated by cases (by no means common) in which a communication has been formed between the colon and the bladder. Contrary to what may be expected, the cases in which such communications exist are not usually examples of malignant disease. In the great majority, indeed, of these recorded instances, the absence of carcinoma has been demonstrated. If the ulcer of the colon can so spread beyond the bowel wall as to form a fistulous communication with the bladder, it is no matter of surprise if one finds instances in the tissues beyond the affected intestine. In

illustration of this condition I may cite the two following cases—one to illustrate an acute process, the other a chronic one.

The first case was that of a man of 48, who was much over-worked, and often exposed to all kinds of weather. After a severe chill he developed symptoms of acute enteritis. These symptoms, after lasting for some little time, were followed by severe pain in the perineum and rectum. There was discomfort which took the form of a feeling as of a foreign body in the bowel which could not pass. The bowels became irregular and constipated, and much mucus was passed. There was loss of flesh. A rectal examination made some time after the advent of these symptoms revealed a solid mass in the pelvis, which appeared to occupy the whole of that cavity. It seemed, indeed, as if some firm material like wax had been poured into the pelvic basin. As the patient was weak, anæmic, and wasted, it is no matter of surprise that the diagnosis of pelvic sarcoma suggested itself. The trouble in the rectum was long abiding. As soon the swelling began to disappear it was evident that the trouble had taken the form of what was probably a pure pelvic cellulitis.

In the other instance the patient was a man, aged 70, with an enlarged prostate and its concomitant troubles. He was the victim of troublesome constipation, which he to some extent neglected. Now and then he suffered from a form of spurious diarrhœa. After one such attack he became conscious of increasing trouble about the rectum, much pain was felt in the gluteal regions and about the outlet of the pelvis. There was some fever; there was great prostration, and after many days some wasting. A rectal examination revealed a solid mass, which, like the mass in the previous case, had no precise limits and appeared to occupy the pelvic cavity. I ventured to diagnose sarcoma of the pelvis. This diagnosis was confirmed by an eminent London surgeon; an unfavourable prognosis was given, and colotomy was discussed. Time went by, and the symptoms, instead of increasing, diminished; the swelling became less, and in the course of months it entirely vanished. Several years have elapsed since this case came under my notice, and I am glad to say that the patient, in spite of his advanced years, is still hearty and well.

Cases such as these make one a little suspicious of the diagnosis of "sarcoma of the pelvis" when the patients are men past middle age. I have met with no example of this condition, nor have I heard of one, in a female subject.

Another point of interest which surgery has helped to elucidate within recent years has been the subject of so-called "idiopathic dilatation" of the hollow viscera. Any part of the alimentary canal, from the stomach to the rectum, may be the seat of a form of dilatation which may possibly merit the term "idiopathic." This term carries with it an important significance, because it was at one time assumed that dilatation of any part of the alimentary canal was dependent upon some obstruction in its lumen, and that above this obstruction distension took place. It was considered that dilatation of the stomach, for instance, more or less definitely implied some obstruction possibly of a temporary character at the pylorus, and that marked dilatation of the bowel involved some stenosis or occlusion of the tube beyond the distended portion. It has now been fully demonstrated that distension of the stomach or intestine, attaining even to an extreme degree, may be met with independently of any obstruction to the lumen of the adjacent portion of the canal. Obstruction in the lumen of the intestine is indeed not the most ready means of inducing meteorism. Interference with the innervation and blood supply of the bowel wall will cause a much more speedy tympanites. In animals the ligaturing of the main mesenteric vein is followed by quite intense meteorism, and one of the most extreme examples I have seen of tympanites of the small intestine in the human subject was due to thrombosis of the superior mesenteric vein. One of the most interesting examples of idiopathic dilatation is provided by the condition known as "ballooning of the rectum." Here, on introducing a finger into the anus, the rectum is found to be apparently dilated to its utmost. It may be dilated in the same way as one speaks of the iris as dilated, but it is certainly not distended, and the term "ballooning," which suggests extreme inflation with gas, is entirely misleading. The ballooned rectum is not distended with gas, but its condition is due to some phase of paralysis. If two fingers be introduced into such a rectum so as to allow gas to escape the ballooning remains the same. It is the muscular wall of the gut which is at fault and not its contents. On the other hand, if the patient be anæsthetised the ballooning vanishes. Idiopathic dilatation of the colon is well seen in what may be termed masked peritonitis. Indeed a little inflammatory focus within the abdomen, and without the pelvis, is a common cause of persisting dilatation of the bowel. As an example of masked peritonitis, I may take such a case as the following.

An abdominal section—such as the removing of a diseased vermiform appendix—is performed. For a day or two all goes well, and then appear the phenomena of masked peritonitis. There is great distension of the epigastric region due apparently to dilatation of the transverse colon. The patient is very frequently sick, and can retain little or nothing in the stomach. He has obstinate and often most persistent hiccough. There is no pain, or next to none, no tenderness of the abdomen, and no board-like hardness of the abdominal muscles. The abdomen may be perfectly soft in all parts, there is no rise of temperature, the bowels respond to enemata, and to such an aperient as calomel; but the dilatation of the colon, the irritability of the stomach, and possibly the hiccough persists. After the bowels have acted there is some little diminution in the epigastric distension, but it is only temporary. The symptoms may last for many anxious days, and at last end in recovery. It may be mentioned that in this condition no drug answers so well as strychnine administered hypodermically.

As regards the stomach, it is needless to say that certain forms of dilatation of that organ are described in which there is no evidence of any obstruction of the pylorus. There is a good deal to suggest that some forms of rapid dilatation of the stomach may depend upon nerve influences which have their starting point in some infective or inflammatory process within the abdomen. I have seen acute dilatation of the stomach follow upon severe and extensive contusion of the abdomen from which the patient ultimately recovered, and in which there was no evidence that there was at any time obstruction of the pylorus.

An interesting example of non-obstructive dilatation of the stomach is afforded occasionally by gastrostomy. In this operation the stomach is fixed to the abdominal wall and opened. Nevertheless, now and then after this procedure I have found the stomach, not contracted as it might be supposed to be, but dilated, and I have seen this dilatation very marked in spite of the fact of there being a free opening leading into the gastric cavity. When, however, one comes to consider the cases of "idiopathic dilatation of the colon" which have of recent years crept into medical literature, it is a question whether the majority can be ranked with the cases just enumerated—cases in which the dilatation is due to no mechanical cause, but rather to changes in the innervation and blood supply of the viscus. In these reputed cases of idiopathic dilatation of the colon there are certain common phenomena. The distension of the colon, and especially of the lower part of it, is simply enormous; it may be so great as to lead to shortness of breath, palpitation of the heart, œdema of the legs, and albuminuria. There is marked constipation, usually vomiting, and often hiccough. In one series the patients are adults, mostly males, and are over 50 years of age. In the other series of cases the patients are children, and symptoms of abdominal trouble have been more or less apparent from birth. In a recent paper[2] on this subject I have ventured to raise the question whether these cases in children, or at least the majority of them, justify the name "idiopathic." I have brought forward evidence which makes it probable that in no small proportion of these cases the dilatation is not "idiopathic," but is dependent upon some congenital defect in the lower part of the intestine. I have illustrated this by the following case:

A little girl, aged 5 years and 9 months, almost from her birth had suffered from extreme constipation followed by enormous distension of the abdomen. The case, in its clinical features, exactly coincided in all points with the reported cases of idiopathic dilatation of the colon. In this particular instance no treatment that was devised was other than imperfectly successful. When the child came under my notice the abdomen could only be described as enormous. As I knew that in all the reported cases of this type death had followed, excepting in one in which an artificial anus had been made, I resolved to attempt a radical cure. The details of this measure I have described in the paper alluded to. Suffice it to say that I found a congenital narrowing of the rectum and sigmoid flexure, and an enormous dilatation of the descending colon above it. I excised the anus, the entire rectum, the entire sigmoid flexure, and the descending colon, and I brought the transverse colon through the hole in the perineum, to the margins of which I attached it. The child made a perfect and uneventful recovery. To this case certainly the term "idiopathic" was not applicable.

Time will not permit of the discussion, even in a fragmentary manner, of certain points which are of medical interest in connection with the stomach and pancreas. The excellent work of Mr. Mayo Robson has, for a time at least, exhausted the subject of the surgery of the liver and bile-ducts. I will only venture to add a brief account of three cases which bear upon peculiarities in the anatomy of the

liver. One cannot fail to be struck with the fact when operating upon the liver that in adult female patients that organ often occupies a much lower level than is usually ascribed to it. In the two following examples a normal liver was mistaken for a tumour in the lumbar region:

The first patient was a woman, about 30 years of age, who had developed a localised peritonitis beneath the liver—a perihepatitis. The cause of this was never made evident, but it is not improbable that it had its starting point in the colon. After all the inflammatory symptoms had subsided there remained an indefinite lump beneath the liver and between the last rib and the iliac crest. The patient was still confined to bed and still complained of much pain in the lumbar region. Her temperature was not quite normal, but the persistence of pain and of a certain amount of tenderness, together with the continued illness of the patient, suggested the presence of pus. I opened the abdomen in the right semilunar line, and found that the gall bladder was free from adhesions and contained no gall stones. Below the region of the gall bladder was a confused mass of adhesions, among which was found the hepatic flexure, which was with some difficulty separated from the liver. In front of the vaguely-defined kidney was a well-rounded mass, covered by adhesions and bound firmly to the lateral and posterior parietes of the abdomen. It could not be separated from the liver, but, as it reached almost to the iliac crest, I did not for a moment suppose that it was hepatic structure. I imagined it to be the wall of an abscess, and after having failed, owing to the adhesions, to identify its deeper connections, I made a small incision into it. I immediately found that I was cutting into normal liver tissue. It then became apparent that the extreme right side of the right lobe of the liver extended downwards almost to the iliac crest; it was buried in adhesions, and, as the incision showed, was of normal texture. It had a close resemblance to the "linguiform process" described by Dr. Hellier, Mr. Mayo Robson, and Professor Riedel. Most of these who have written upon the subject of "Riedel's lobe," as it is called, have assumed that this condition is due to gall stones; but in this case, and in one quoted by Mr. M. Robson, such association did not exist.

The second case was that of a woman past middle life, who complained of vague but troublesome pain over the region of the right kidney. She had never had hepatic colic nor jaundice, she, however, volunteered the statement that she had vomited gall stones. Between the liver region and the iliac crest was a well-rounded mass; this mass moved on inspiration; it could be pushed forwards, but no pressure from the front could make it sink back into the renal fossa. It was not dull on percussion from the front. The case was considered to be one of movable kidney, and I had been requested to suture the floating organ. On the examination I made previous to the operation, I felt so very nearly assured that the tumour was not renal that I made an incision in the right semilunar line, some little way below the ribs. I discovered then that the tumour was made up of Riedel's lobe, that it was perfectly normal, and quite free from adhesions. It reached well into the right iliac fossa. It formed so definite and remarkable a projection that at first sight it was difficult to believe that it belonged to the liver. The gall bladder contained many small stones, which I removed; the opening in the gall bladder was sutured and the abdominal wound closed. Both this patient and the one already described made perfect recoveries. They were both patients in the London Hospital within the last few months.

The third case is a little more remarkable. The patient was a young lady, aged 19, whom I saw in consultation with Mr. Alfred Cooper and Dr. Cornish. Since the age of 2 years her symptoms were such as to make it evident that no bile passed into the intestines. Since the time mentioned, that is for seventeen years, she had been deeply jaundiced; so stained was the skin that it was hardly possible to believe that the patient was a European. The motions had always been white; the urine was a deep mahogany colour; vomiting was frequent; bleeding from the gums and nose was of almost daily occurrence, and the patient was liable to attacks of fever in which the temperature ran up to 102° to 104°. The urine was often offensive, and she had only menstruated twice. There was chronic dyspepsia and abiding *malaise*. Dr. Lauder Brunton, who saw the patient, considered the case to be one of stenosis of the bile ducts, probably of congenital origin. The liver was no longer enlarged, but it had been enlarged when the patient was 10 years old. Her condition was deplorable, and it was the opinion of those under whose care she was that unless some relief could be obtained, her life could not be long extended. From a surgical point of view there was little to encourage an operation upon a patient who had had persistent jaundice for seventeen years, and who suffered from hæmorrhage from the gums and nose. The desperate state of the patient, however, appeared to me at least to justify an exploratory incision. I opened the abdomen, and was pleased to find a gall bladder, the size of a hen's egg, filled with clear mucus. A probe could be made to enter the cystic duct, and pass a little way into the common duct. About a quarter of an inch from the commencement of the common duct that tube ended in a firm, fibrous nodule, and beyond this nodule no trace of the duct could be discovered; there was, in fact, an absence of the terminal part of the duct. I established a communication between the gall bladder and the jejunum. The operation was performed on the 9th of this month, and so far the patient's recovery has been uneventful. For the first time in seventeen years bile-stained motions have been passed, and it is evident from the marked improvement shown in all the symptoms that the bile has at last a free means of escaping into the small intestine. I have no means of explaining how it happened that for the first two years of the patient's life, assuming the trouble to be congenital, there was no jaundice. This instance serves to illustrate that even the most unpromising of cases may prove to be worth at least an exploratory incision.

In conclusion, I cannot avoid one word on the subject of this self-same exploratory incision. That this simple procedure has been of enormous value no one will doubt; that it has been the means of saving many a life has been amply demonstrated; that it has enabled a correct diagnosis to be made and a logical treatment to be carried out in hundreds of obscure cases needs not to be insisted on; but there must arise in the minds of many the question whether the exploratory incision, infinite as its value may be, is an entirely unmixed blessing. I notice that there are indications which tend to allow this ready measure to replace the admirable labour of clinical observation. The incision is so simple, the collecting and arranging and judging of clinical evidence is so difficult and tedious. With a scalpel in the hand, the patient, searching examination of the abdomen as practised in older days is no longer needed, and it is a question whether the education of those who wish to become acute clinical observers has not suffered a little thereby.

REFERENCES.

[1] *Lancet*, March 17th, 1894, p. 662. [2] Idiopathic Dilatation of the Colon, *Lancet*, January 29th, 1898.

THE OPERATIVE SURGERY OF THE JOINTS.*

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THERE is an obvious parallel to be drawn between the joints and the abdomen in regard to the results that have followed the introduction of asepsis into surgical practice. Formerly the peritoneum and the joints were equally regarded as forbidden ground; while to-day, of all the structures that can be named, none are more favourable for operative procedures. Moreover, the structure and the physiological endowments of the peritoneum on the one hand, and the synovial membranes on the other, which formerly so often conduced to disaster, are precisely those to which, at the present day, rapid repair after surgical interference is so largely due. Both membranes consist of an epithelial layer resting on a substratum of loose areolar tissue, richly supplied with blood vessels. Thus both are the seat of rapid tissue change, and from the surface of each absorption is very active. Such structures are highly favourable to the development of processes of an infective type whenever septic micro-organisms have gained an entrance, but they are also very favourable to the processes of repair when infection is excluded. The importance of the latter fact was speedily established so far as the peritoneum is concerned, for, by a fortunate circumstance, the date of the introduction of the aseptic method coincided with a very active period of abdominal surgery in the instance of ovariotomy, with the result that a full demonstration was forthwith obtained of the amount and rapidity of repair of which this membrane is capable.

In the case of the joints, however, the powers conferred by the aseptic method have not even yet, I am inclined to believe, met in all quarters with full recognition. In saying this I do not allude to those surgeons to whom the performance of large operations is an every-day occurrence, and whose experience inevitably brings them to a full conviction of the certainty with which repair follows in wounds, wherever situated, when asepsis is maintained. I refer rather to those to whom, from the circumstance that they are busily occupied in other departments of practice, the knowledge of the recent progress of surgery is to some extent only second hand. To such the opening, for instance, of the knee-joint, would present itself as a proceeding which they would hesitate to recommend, or even to countenance, except in cases of absolute necessity. Yet it is certain that it is just as safe to open the knee, or any of the other joints, as it is to open the abdomen, and that, as in the case of the peritoneum so in that of the synovial membranes, the old view that these structures are in some way inherently unsuitable for operative treatment is erroneous. I think it may be worth while to illustrate this fact in respect to the joints, so as to bring this department of operative surgery, so to say, into line with that of the abdomen.

OPERATIONS ON THE SEMILUNAR CARTILAGES OF THE KNEE.

The treatment of the more severe cases of detachment or other injury of the semilunar cartilages of the knee is a good example of the recent development of the surgery of the joints. The main facts in regard to these appendages of the knee-joint are well known. Although either may be involved,

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