is next divided. It has a very definite horizontal attachment to the front of the sacrum at the level of the third or fourth segment, between the origins of the "rectal stalks" of Professor Elliot Smith. My friend, Mr. T. W. Todd, has kindly made dissections showing this attachment, as little notice is taken of it in anatomical textbooks. The fascia holds the rectum in position, and until it is divided the rectum does not begin to come down at all. The fat and tissue can now be cleared from the front of the sacrum, and this should be done rapidly with the fingers as far up as the promontory. A swab is now inserted to check the oozing and the separation of the rectum from the prostate is proceeded with. This is sometimes rather difficult, and here also the finger is the best dissector. A metal staff should be inserted in the urethra as a guide. The peritoneum is opened through the recto-vesical pouch, and its lateral reflections on to the rectum divided with scissors. The lateral connexions of the rectum are then gradually separated with the finger. In doing this the superior haemorrhoidal artery is isolated and clamped, and the large lymphatic vessels passing up over the pelvic brim may be defined. These I usually pull on until they break off, and they thus come away at a higher level than would otherwise be reached. The tissues from the sacral promontory forwards towards the colon are thus teased through—bit by bit. This separation is through the lower part of the mesocolon, and results in the freeing of the long loop of the pelvic colon, which then comes down readily, and the rectum will now be found to hang free, well beyond the skin level. This freeing of the colon is imperative for the success of the operation, for otherwise its out end cannot be united to the skin around the anus without tension. It has been said that the colon, thus brought down, is liable to slough, but I have never seen this happen.

I wish to lay stress on the use of the finger in dissecting out the rectum and tearing through the mesocolon at the upper limit of the wound. Its use enables one to pass more easily along the fascial planes, which are the true anatomical boundaries of the viscus, and thus ensure its being removed completely, with the perirectal tissue and lymphatics intact. Other advantages are the division of the lymph trunks at a higher level, and the avoidance of bleeding.

After the rectum is cut off and removed the divided peritoneum must be sutured to make a new pelvic floor, and it should be stitched to the front of the colon at the proper level, so as to prevent adhesion of the small intestine, which will subsequently occupy the pelvis.

Silkworm-gut sutures, passing deeply, are introduced along the line of incision but not tied. The cut end of the colon is then sutured to the skin on each side of the former anus by a continuous silk suture, taking a good hold of the bowel wall, but not drawn too tightly. The anal circle of sutures is completed in front and behind after the silkworm-gut sutures have been tied. If the sphincter has been preserved its ends must be carefully sutured, in front and behind the anus, by buried catgut stitches. A large drainage tube is inserted posteriorly, passing to the hollow of the sacrum, and a second smaller tube into the perineum in front of the anus.

The amount of shock after the operation varies greatly, and is sometimes astonishingly small. The elevation of the pelvis and legs in this method certainly helps to diminish the shock, and constitutes one of its greatest advantages.

The disadvantages of the artificial anus, wherever it may be situated, can be very largely mitigated by careful management. The chief care must be not to let the bowels become loose, and this can be done by attention to diet. A tumbler of hot water, alone or with salines, taken on waking ensures emptying of the colon within an hour before the patient dresses. After cleansing, a T-bandage with a pad is put on and worn through the day. Some patients have no further movement of the bowels till next morning; others have a second evacuation after the evening meal, necessitating a second dressing. But, unless the faeces are allowed to become fluid, no inconvenience occurs, and the patient can go on doing his work and enjoying life.

REFERENCES.

¹ BRITISH MEDICAL JOURNAL, vol. i, 1910, p. 927. ² *Annals of Surgery*, 1910, vol. ii. ³ Jacobson and Rowlands, *Operations of Surgery*, 1907, vol. ii, p. 777. ⁴ Quoted by Jacobson, loc. cit. ⁵ BRITISH MEDICAL JOURNAL, vol. i, 1910, p. 1145. ⁶ *Lancet*, vol. i, 1911, p. 233.

SOME PRACTICAL POINTS IN OPERATING ON THE KIDNEYS AND URETERS.*

BY

E. DEANESLY, B.Sc., F.R.C.S.,

WOLVERHAMPTON.

A WELL-PLANNED operation on the kidney should satisfy the following requirements: The kidney should be exposed in such a manner that it can be not only palpated and inspected, but completely isolated from its surroundings and drawn outside the body. In the term "kidney" I include for this purpose the pelvis and first two inches of the ureter. Nothing less than such a complete exposure, or the possibility of effecting it if required, will enable the surgeon to deal satisfactorily with all contingencies.

Although the kidney may be approached from the back, the side, or the front, the posterior or lumbar route is not only the most direct, but the only route which is capable of being applied to any and every condition, and which is capable of meeting fully the postulated requirements in every case. Practically all surgeons are now agreed in accepting it as the normal route; and although special circumstances may in a few cases lead to the choice of the anterior or lateral abdominal approach, I shall not discuss this method here.

With regard to the position of the lumbar incision there is still considerable variety of practice. Although the twelfth rib on the left side crosses the kidney almost in its centre and on the right side only slightly above it, and is, therefore, the most natural and conspicuous guide to it, nearly all the incisions described and recommended in the textbooks lie below and outside it. Most of them begin near its tip, and extend outwards and downwards towards the iliac crest. By such incisions only the inferior pole of the kidney is actually exposed in the upper part of the wound, and complete access is only obtained by dislocating the organ downwards—a matter of considerable difficulty when the pedicle is short and the patient big or obese. For this reason, therefore, I think it better to make the normal incision directly over the twelfth rib, and to excise the whole length of the latter from the tip to the angle. By the "normal" incision I mean an incision capable of meeting all contingencies, especially the contingency of nephrectomy. Where the operation is planned merely for the fixation of a movable but otherwise normal kidney, an incision in the costo-vertebral angle without rib resection is, of course, sufficient, because in such cases the kidney is not enlarged, and its mobility makes it easy to dislocate or deliver it from the wound. Removal of a portion of the twelfth rib for the purpose of obtaining better exposure of the kidney is, of course, a well-known method, but it is mentioned in textbooks merely as an addition or afterthought to one of the ordinary lumbar incisions. This procedure is nothing like so efficient as a deliberate resection of the whole rib by an incision in the same line and immediately over it. By this method the kidney is exposed in the centre of the wound and the upper pole is rendered easily accessible both to sight and touch, and however fat the patient or deep the wound, the whole kidney, including the pedicle, can be dealt with in any manner required. The importance of this point will be sufficiently obvious to any surgeon who has encountered the difficulty of securing the pedicle in the course of a nephrectomy where the kidney lies high up under the ribs far above the line of the ordinary incision. The objection which will, of course, be made to the method I advocate is the danger of wounding the pleura. It is true that it is easy to wound the pleura in removing the rib, but it is just as easy not to do so. Even if a small puncture occurs, it is easily repaired, and although this has occurred to me on several occasions, I have found no ill results from it. In this position the two parietal layers of pleura are close together, only an insignificant quantity of air is admitted, and the lung does not collapse. If the rib is detached with ordinary care, the lower edge of the pleura is exposed and the edge of the lung seen moving up and down within it. The deeper part of the incision is made below the edge of the pleura in a position corresponding to the lower edge of the

* Read before the Birmingham Branch of the British Medical Association.

rib, care being taken to leave the twelfth dorsal nerve and vessels uninjured above. Making the incision in this manner, I find it possible fully to isolate and expose the kidney in about five minutes. I have employed the method as the normal routine for the last ten years, and I am convinced of its superiority to the ordinary lumbar incisions.

Another practical point of importance in kidney operations is the posture of the patient. The lumbar operation is usually practised with the patient lying on the sound side with a pillow under the loin and the uppermost leg fully flexed at the knee and hip. Apart from the difficulty of securing the patient in this position and preventing the tendency to slip, it is frequently very difficult in a stout patient to get a sufficient interval between the last rib and the crest to obtain good access to the kidney. In women the great width of the hips adds to this difficulty. When some years ago Edebohl devised the procedure known as decapsulation of the kidneys for albuminuric conditions, he found it necessary to operate rapidly and to apply the procedure to both kidneys. For this purpose he placed the patient in a completely prone position, with the pelvis resting on a large cylindrical air cushion. Pressure being removed from the abdomen by this means, diaphragmatic breathing proceeds easily and thoracic movements are not much impaired. The head is turned to one side and rests on a small sandbag. The arms are folded across the chest, with the elbows flexed to a right angle. In this posture I have found that patients take the anaesthetic well, and the anaesthetist finds little difficulty in administering either chloroform or ether. From the surgeon's point of view I find the prone position a great improvement on the lateral. It is a position of natural equilibrium and stability, and requires no assistants to maintain it, as the lateral position does. The exposure of the loin is, of course, far more perfect, and the whole operation is greatly facilitated by the directness of the exposure. Lastly, the feasibility of bilateral operations in the prone position is a point of great practical importance. Bilateral decapsulation I have had few opportunities of practising, and, though the results in one case appeared surprisingly successful, it does not appear to me to be an operation with a great future. Bilateral fixation of movable kidneys has been extensively practised. Without discussing that highly debatable subject, I may point out that if a surgeon wishes to perform a double nephropexy, the prone posture of Edebohl greatly facilitates the procedure. To place a patient first on one side and then on the other, performing an operation on each, is a very different thing from having both sides easily accessible and completing both operations with hardly any disturbance of the field of operation from start to finish. Time, shock, and risk of failure of asepsis are all reduced to a minimum.

The advantage of being able to expose rapidly and examine both kidneys at one operation in the prone position is a point to which I wish to direct particular attention. It might be thought that the use of radiography and of the ureteral catheter would render a bilateral operation seldom necessary. There is no doubt that these and other resources of modern urinary diagnosis enable us not only to localize and define the majority of pathological conditions affecting one kidney or ureter, but to estimate the quality and amount of the urinary secretion of each kidney. By a skilled radiographic examination the presence or absence of stones can be ascertained with practical certainty as regards the kidneys and with somewhat less certainty as regards the ureters. The existence of renal distension can be demonstrated and measured by the ureteral catheter if necessary. The presence or absence of infection of the renal pelvis can be shown on either side by the same means and the nature of the infection determined by bacteriological examination. The existence of two kidneys (a point of vital importance) and the determination of their separate secreting capacity is equally possible of demonstration without any cutting operation. These facts would seem at first sight to render it quite unnecessary to expose both kidneys when it is proposed to operate on one only, and I believe that the majority of urologists would accept this conclusion. Let me, however, test it by seeing how it applies to the ordinary experiences of urinary surgery. I will begin by assuming as an axiom that no surgeon will remove a kidney without having good evidence, or the strongest possible presumption, of the existence of a competent

kidney on the opposite side. I would even go further, and assert that no surgeon should embark on any operation on a kidney which may have to terminate for unforeseen reasons in a nephrectomy without being assured of the competence of the opposite organ. This extension of the aphorism practically includes all operations on the kidney except that of fixation of a movable and otherwise normal organ. All other operations on the kidney—for example, for hydronephrosis, pyonephrosis, stone, tubercle, and new growth—are all liable to require nephrectomy, and the surgeon should be prepared for that contingency. I exclude, of course, traumatic rupture of the kidney, where, in view of the acuteness of the emergency, the surgeon may rely on Providence and probability for the existence of a second kidney.

The point in question is, then, the nature and quality of the evidence by which an operator should satisfy himself as to the condition of supposedly unaffected kidney before undertaking any operation which may conceivably have to terminate in nephrectomy. Obviously in every such case a cystoscopic examination, where possible, will be made, and all possible inferences drawn from the character of the ureteral orifices and of the fluid ejected from them. The proviso "where possible" does not apply to the ability of the surgeon to use the cystoscope, which I take for granted. In the majority of cases of surgical disease of the kidney or ureter cystoscopy presents no difficulty and always gives valuable information, positive or negative, as to both sides. In two classes of cases—both common, however—cystoscopy is often inconclusive, impossible, or inadvisable. One of these is tuberculous kidney with extensive involvement of the bladder. In such a case it is generally not merely difficult to get a clear medium and sufficient distension of the bladder, but the repeated washings of the bladder in the effort to obtain them are positively injurious and even dangerous to life. A similar condition is found in an infected hydronephrosis or septic pyelitis associated with much cystitis, and cystoscopy is subject to the same difficulty and danger. With these exceptions, a cystoscopic examination should precede all renal operations as an ordinary routine part of the clinical examination.

Should catheterization of one or both ureters be equally a matter of routine? And if so, does it render bilateral exploration unnecessary? Take an ordinary case of renal or ureteral calculus. Let us assume that the stone or stones have been definitely located, and that one kidney and its ureter have been shown by radiography to be free from stone. Is there then, any need to catheterize either ureter? The amount of distension and loss of secretory power of the affected kidney may be generally inferred from the number and position of the calculi and the shadow outline of the kidney. The condition of the unaffected kidney cannot be judged satisfactorily from a radiograph, but if the orifice of its ureter and of its ejections are normal in appearance, its soundness may be assumed with considerable probability. Catheterization of the ureter on the affected side would give assurance of its patency—a point of importance—but as this can be equally done from above at the time of operation it is not indispensable. Catheterization of the opposite side would give positive evidence of secretory ability, a point of prime importance, but subject to certain qualifications. The same arguments apply to the other class of renal cases which, together with stone, form the bulk of renal operations, namely, congenital or obstructive distensions of the kidneys and tuberculous and septic infections. The whole question of catheterization is therefore one of expediency. If the catheterization of one or both kidneys were always possible, painless, free from risk, and certain in its results, its routine application would need no argument. As a matter of fact, none of these conditions can be guaranteed. Properly employed, the catheter can generally but not always be introduced; the risk of infection is real but small, its use is more disagreeable than painful, its findings are generally but not always reliable. But its effective use requires time; and though it can, and usually should, be done without general anaesthesia, it is in fact a surgical operation, to be followed perhaps by another operation for the treatment of the condition disclosed. The application of cystoscopy and catheterization of the ureters immediately before another operation on the kidney, which may

be prolonged and difficult, is a thing which should generally be avoided, as it may add to the danger and shock. It is better as a rule to make the cystoscopy a separate procedure. This, of course, to the patient means two separate "operations," and the multiplication of operations is not a thing he should be required to submit to if it can be reasonably avoided.

For these various reasons, I suggest that in many cases it is better, safer, and simpler, to make a direct exploration of both kidneys at the same operation. In the prone position it is merely necessary to begin by an incision on the opposite side to that on which the principal operation is to be carried out. In five minutes one can expose fully to sight and touch the whole of a normal kidney and upper part of the ureter. In five minutes more the wound can be closed and the surgeon can then proceed to operate on the affected side with full liberty to proceed to nephrectomy if necessary, or to abstain therefrom if the first kidney is found absent or unsound. Without any pain or inconvenience to the patient, without any change of posture to incommode the surgeon, and without any material prolongation of the operation, a possible nephrectomy can be made as free from risk as it can be by the most prolonged and elaborate catheterization. I know that it will be said that only gross changes can be detected by the completest inspection and palpation and that the secretion of an apparently normal kidney may be inadequate. Personally, and until I have met with evidence to the contrary, I believe that a kidney which is unable to carry on the functions of the body alone will always show sufficient anatomical changes to be recognizable by sight and touch, and that a kidney which shows all the outward signs of anatomical health may always be trusted to secrete enough urine for two in case its fellow is removed. At any rate, I have for several years performed all my kidney operations in the prone position, and in the majority of them I have explored both kidneys without the smallest disadvantage to the patient and with the great satisfaction of knowing that the patients I have left with one kidney have that kidney sound. Not a single case of bilateral exploration, with or without nephrectomy, failed to recover; and I have the satisfaction in cases of nephrectomy of having not merely an inferential knowledge of the remaining kidney, but knowledge as complete as sight and touch can make it.

The surgery of the ureter, thanks to cystoscopy and radiography, has now been placed on the same definite basis as the surgery of the kidneys. In dealing with any surgical affection of the kidneys it is essential to know of the presence of any abnormal condition of either ureter; and, conversely, in operating on the ureter one must take account of possible conditions in both kidneys. If, for example, after removing a stone from the kidney, or incising and draining a pyonephrosis, we neglect to ascertain the patency of the ureter, we run the risk of a urinary fistula from the presence of an impacted ureteral stone or ureteral stricture. Or, on the other hand, we may remove a stone from the lower ureter without recognizing the existence of other calculi in the corresponding kidney or even on the opposite side—a condition by no means rare. Such errors can only be avoided by taking a comprehensive view of every case and never forgetting that for purposes both of diagnosis and treatment the various parts of the genito-urinary system are inseparably connected.

Leaving on one side for the moment operations of emergency, I shall assume that before any operation is planned on the ureter the whole of the information which may be derived from cystoscopy and radiography has been obtained and considered, and that this information applies to both sides of the genito-urinary system.

In the actual modes of dealing with abnormal and diseased conditions of the ureter itself, there is, of course, nothing peculiar. They are dealt with on ordinary surgical principles, just like parallel lesions in any other organ. Calculi, obstructive distensions, and septic or tuberculous infections constitute the bulk of ureteral conditions for which operations are required, just as they do in the case of the kidney. For surgical purposes the ureter may be divided into three parts—upper, middle, and lower. The upper part, including the pelvis and first three inches, belongs to the kidney region, and may be exposed and treated by the lumbar incision or a slight extension of it. The middle region can be exposed by an iliac extra-

peritoneal incision; and the lower—that is, that part which lies below the brim of the true pelvis—may be approached in several ways: above, either outside or through the peritoneum, and below, through the perineum or bladder.

There is no part of the ureter which cannot be exposed surgically by an extraperitoneal incision from above. I have twice removed calculi in this manner which were lying in immediate contact with the bladder. In both cases the ureter was greatly dilated and allowed the passage of forceps or scoop down to the stone. In the iliac region there is no difficulty in exposing the ureter without opening the peritoneum, and this is the route which has been most generally used. In spite of the obvious advantages of the extraperitoneal route in operating on a ureter with possibly septic contents, there are some important drawbacks, and the question of adopting the intraperitoneal route which has been recently advocated by Mr. Sinclair White¹ deserves serious consideration. The objection to the extraperitoneal route lies not so much in the depth of the wound and the relative inaccessibility of the ureter when approached from the outer side as to the great length of the incision through the abdominal muscles and transversalis fascia. However carefully these are sutured there is invariably left a large and troublesome ventral hernia, which may seriously incapacitate for work. On the other hand, a median abdominal section, however long, if properly sutured and not drained, may be guaranteed against hernia. In addition to this very important advantage it is possible through an ordinary median hypogastric incision to palpate the whole course of both ureters, and by placing the patient in the inverted position to inspect and operate on either ureter from a little below the kidney to the entrance into the bladder. By operating with the same precautions as one would adopt with the opening of the gall duct or intestine, there is no more risk of peritoneal sepsis, and if drainage is required, as is usually the case, it can easily be made entirely extraperitoneal by closing the posterior peritoneal incision and bringing out the drain through a posterior or lateral incision not entering the peritoneal cavity.

I will relate briefly a case in which I adopted Mr. Sinclair White's suggestion, partly in order to avoid a ventral hernia, as the patient was a very big and corpulent man, and partly because even the fullest information derived from radiography left some doubt as to the existence of stones on both sides.

The presence of a calculus in the lower part of the left ureter was suspected from the existing symptoms, which were referred entirely to the left side, although there was a history many years previously of renal colic on the right side. Radiographs taken by Dr. J. A. Codd showed a clear shadow in the position of the right ureter below the pelvic brim, and also a less clear shadow corresponding to the left ureter in a similar position. There were no shadows in the kidneys.

Although the operation proved difficult, owing to the size and corpulency of the patient, I succeeded in thoroughly examining the left ureter, and excluding the presence of a calculus in any part of it from the kidney to the bladder. I then found the right kidney somewhat dilated to the feel, and traced its ureter down to the pelvic brim without feeling any stone. Not until the ureter had been isolated from its bed and brought up from the pelvis was I able to find and remove an oval calculus measuring $\frac{1}{2}$ in. in diameter, and about $\frac{1}{4}$ in. in thickness. It was firmly embedded in the ureter, and only extracted with difficulty after freely incising it. The incision was closed with catgut, and an extraperitoneal drain inserted.

The result of the operation was less successful than I had hoped, owing to the formation of a stricture at the site of the impaction of the calculus, and a consequent urinary fistula along the course of the drain tube. Accordingly some months later the patient was readmitted, and the right kidney, which was in a state of chronic hydronephrosis, was removed after examining the remaining kidney and finding it sound.

Although not successful in saving the kidney in this case, the operation has convinced me that for many cases of stone in the ureter the abdominal route is quite practicable and offers important advantages. This case illustrates some of the limitations of even perfect radiographic pictures when applied to particular cases. Speaking generally, a positive result in a good radiograph is more reliable than symptoms when the two appear contradictory. If a patient complains of the one kidney and a stone shadow is definitely seen in the other kidney, we may be tolerably sure the radiographer is right as to the latter. But, before concluding that the

case is one of those singular examples of contralateral symptoms, it is well to remember that the symptoms on the side complained of may quite possibly be due to actual disease not necessarily disclosed by radiography. Bilateral disease is common, transference of pain to the opposite side is rare, and those who diagnose rare conditions are more often wrong than right.

The fallibility of radiography is greater in the case of the ureters than in that of the kidney. That a shadow in a given case is that of a stone in the ureter can never be positively asserted, though, taken with other evidence, it is often convincing enough for all practical purposes. That a particular shadow is not in the ureter may, however, be demonstrated by radiographing the ureteral catheter if necessary. Radiography, valuable as it is in urinary surgery, is only one among many other means of collecting evidence; and as it would be foolish to cut a man merely for a shadow, so it is equally or even more foolish to abstain from operating on an aching kidney or an obstructed ureter merely because radiography has nothing to disclose about the cause of it.

The surgeon's business is to cure and to solve practical problems in a practical way. In the pursuit of that object he will not seldom have to cut Gordian knots in the ancient way—with the knife. Many cases are met with in which time or the condition of the patient does not permit of a complete radiographic examination. In obstructive anuria, for example, relief is urgently required. Both kidneys are obstructed, or one kidney is absent or destroyed and the remaining ureter is blocked. History and symptoms may indicate which side, if one only, is in need of relief, but not uncommonly there is nothing to indicate this vital fact, still less in what part of its course the ureter is obstructed. In such cases the advantage of bilateral exploration of both kidneys by lumbar incisions in the prone position is conspicuous, and I have employed it on several occasions, with the certainty of giving the needed relief by nephrectomy, even if the actual obstruction is not accessible.

Again, there are cases in which an attack of acute one-sided renal colic, instead of ceasing with or without the passage of a stone, continues for days with few intermissions. A complete radiographic examination may be impossible, or the means may be inaccessible, and surgical relief is nevertheless required. What is to be done? If the mouth of the ureter seen by cystoscopy shows signs of the presence of a calculus a ureteral catheter may be passed as far as possible, and this is sometimes followed by the passage of the stone. This occurred to me in one case, but in another it failed.

In this second case I exposed the kidney, partly to give relief and partly to ascertain whether it contained other calculi besides that shown by cystoscopy to be in the ureter. No stone was found in the kidney, and a catheter passed from above entered the bladder. The patient was relieved, and a few days later a calculus the size of a hemp seed was passed from the bladder. It is probable, though not certain in this case, that the stone would have been eventually passed without assistance, but the operation not only gave the relief from the agony the patient was suffering, but ascertained definitely the absence of other stones in the kidney.

I will conclude by discussing one other debatable point in operations on the ureter. A patient has symptoms pointing to an impacted calculus in the lower part of the ureter. Radiography confirms the diagnosis and indicates the size and position of the stone. Let us assume further that no calculus shadows are found in either kidney. In such a case the indication is clearly to cut down on the stone and remove it. If the kidney is sound or only moderately distended from the effects of the obstruction, and if the ureter is not irreparably damaged by ulceration at the site of the impacted stone, the latter may be removed, and perfect recovery ensue. That is the ideal course to pursue, but circumstances do not always favour the pursuit of the ideal. The ureter may become strictured after removal of the stone, as occurred in the case I have related, or, as occurred in another case in which I removed three large calculi from the lower end of the ureter, the chronically distended and atrophied kidney may become secondarily infected; and although this patient recovered and is still living, the preservation of an infected kidney is a doubtful advantage to him.

For these reasons, when the impaction of the stone is an affair of long standing, I am in favour of exploring the kidney before cutting down on the ureter.

In a case of this kind which recently came under my care I explored both kidneys, and found the one on the affected side much distended and atrophied, but not infected, and the opposite kidney sound. The patient was a working man in whom it was important to avoid if possible a ventral hernia. He was also known to be unwilling to consent to a second operation. Under the circumstances I decided to remove the affected kidney and to leave the calculus in the lower end of the ureter, where it was clearly shown in the radiograph. Visible spurts seen by cystoscopy and also the presence of pus in the urine showed that the lumen of the ureter was not completely obstructed, so that I had no hesitation in ligaturing the divided end with catgut and dropping it back in the lumbar wound, which healed by primary union. So far the man has been completely relieved and has lost his symptoms though retaining the stone. If the latter should eventually give trouble it can be removed, but there is no reason why it should do so now that there is no urine to obstruct and no signs of infection in the ureter itself.

I am aware that the procedure adopted in this case is open to criticism and is not to be recommended in an uncomplicated case, but the case illustrates the necessity of taking into account the state of all the urinary organs even when the disease affects primarily and mainly only a single part.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, 1910, vol. i, p. 1.

REMARKS ON "APPENDICULAR DYSPESIA" AND ON THE TREATMENT OF DIFFUSED PERITONITIS.*

BY

R. CHARLES B. MAUNSELL, M.B., F.R.C.S.I.,

MEMBER OF THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF IRELAND; SURGEON TO MERCER'S HOSPITAL, DUBLIN.

THE credit of drawing attention to the group of symptoms now known as "appendicular dyspepsia" is largely due to Mr. Moynihan of Leeds, although many surgeons recognized the condition previously without insisting upon its great importance. But I do not intend to quote from the work of others, and propose merely to state my own conception of the meaning of the term and to record briefly the history of a few cases, from among many, which arise to my mind when looking back upon appendix operations. The condition presents itself in two forms, one with gastric symptoms, the other with symptoms mainly intestinal. The latter I do not intend to elaborate in this communication, but may mention that I have seen chronic diarrhoea, chronic constipation, and symptoms akin to those of mucous colitis cured or greatly mitigated by the removal of a chronically diseased appendix.

If I were asked for a definition of the gastric form of "appendicular dyspepsia" I would reply: "It is a group of symptoms, and perhaps signs, which point so strongly to organic, gastric, or duodenal disease that it is only by most careful examination or by the supervention of definite appendicular symptoms that a correct diagnosis is probable."

The first case I will mention was seen in consultation with my colleague, Dr. Lumsden.

CASE I.

Miss T. L., aged about 30, first consulted Dr. Lumsden on June 1st, 1908. She had been suffering for three years from epigastric pain and vomiting. She was unable to eat solid food, and had existed upon "slops." Dr. Lumsden could not elicit any definite history of haematemesis. Upon examination the only obvious sign was tenderness upon pressure in the epigastrium slightly to the right of the middle line.

On June 10th the patient reported that she suffered from attacks of diarrhoea. The epigastric pain was less, but there was severe pain in the back and much depression mentally.

For the following fourteen months, in spite of various forms of treatment, her condition remained the same. In August, 1909, whilst in England, she suffered from a severe attack of abdominal pain accompanied by tenderness in the right iliac fossa. During the next month Dr. Lumsden saw her twice on account of severe abdominal pain with marked tenderness in the right iliac fossa. The patient now entered hospital, and I saw her with my colleague.

Upon our first examination nothing definite was found, but subsequently when examining the pelvis it was obvious that there was distinct tenderness on pressure over the brim of the pelvis on the right side. We then determined to explore in the region of the appendix, and I removed a diseased appendix, which lay inwards towards the pelvic brim.

* A paper read before the Surgical Section of the Royal Academy of Medicine in Ireland, March 3rd, 1911.