they are closely allied to leukaemia, and the affected glands show masses of small round cells, endothelioid cells, and giant cells. But besides these cases, there are others again which are more closely allied to the lymphosarcomatous tumours, and, though apparently the symptoms may appear to be general from the first, yet there is often a primary focus, which may have existed for some time and given rise to no symptoms.

You see, therefore, gentlemen, that the pathology of Hodgkin's disease is far from being satisfactorily made out. This is clearly shown by the various names which have been applied to it, for example, lymphosarcoma, lymphadenoma, malignant lymphoma, *adénie*, *lymphadénie*, lymphatic cachexia, lymphosarcomatosis, lymphadenosis, pseudo-leukaemia, chronic intermittent fever, etc. To sum up what our own researches have led us to believe, we may adopt the following classification:—

1. Acute Hodgkin's disease—better termed acute lymphosarcomatosis—a general infectious disease of specific type, which may follow a local focus or may be general from the first.

2. Chronic Hodgkin's disease, which includes (a) a form of disease of the same features and nature as the acute form; but which is chronic in its course, and (b) a form allied to leukaemia, and which may therefore aptly be termed chronic pseudo-leukaemia, which presents more a hyperplasia of the blood-forming organs, and of which there may be, as in leukaemia, a lymphatic, a splenic, and a myelogenous type, though the independent existence of the two latter forms has not yet been clearly established.

COURSE OF LECTURES

ON THE

SURGERY OF THE KIDNEY.

Delivered at the Middlesex Hospital

By HENRY MORRIS, M.A., F.R.C.S.,

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LECTURE I.

ON CONDITIONS SIMULATING RENAL CALCULUS AS VERIFIED BY SURGICAL EXPLORATION IN TWENTY-EIGHT CASES.

GENTLEMEN,—In a report, published a year or two ago, of some of the cases in which I had just previously performed nephrolithotomy, I stated that I would at some future time put together all the cases in which I had explored for suspected renal calculus without finding one.

It is my intention in this and the next lectures to lay before you the essential facts of each of these cases, so as to enable you to realise how many pathological conditions give rise to symptoms like those of renal calculus. You will thus appreciate the difficulties in diagnosis, and will understand how impossible it is in some cases for the surgeon, with the knowledge which he at present possesses, to approach an operation for suspected stone in the kidney, no matter whether his method be the lumbar or abdominal, with anything approaching absolute certainty that he will find what he seeks—that there is really present what he suspects to be giving rise to the patient's symptoms.

How different is it in the case of vesical calculus! In the bladder, as in the kidney, other affections simulate stone, but the introduction of a sound by a practised surgeon at once clears up all doubt, and the operator is thus enabled to make with deliberation all the preparations necessary for the accomplishment of a definite result, namely, the extraction of the stone.

In diseases of the kidney, possibly or probably calculus, much may be anticipated, but nothing positively predicted; preparation for many contingencies must be made, but no plan of procedure can be definitively arranged beforehand. If a calculus be found will it be single, or one of two or three, or even one of a quarry? What will be its size? Will it be thickly surrounded by the secretory structure, or

occupying the renal pelvis? Will it be fixed or movable, a hard spiculated stone or a soft mortary mass? Will it be best to remove it through the parenchyma or pelvis of the kidney? Will it be complicated or not with renal abscess, and, if so, will the pus be inodorous or most foetidly offensive? These and other questions must often remain unanswered till the operation has been far proceeded with. It is only want of experience in such cases which can lead you to suppose that the operation of extracting a stone from the kidney is always a simple and a uniform one; that all there is to be done is to expose the kidney, and then if there is a stone to cut it out. The difficulties in finding the stone and in making sure that there is only one stone present are often very considerable, no matter whether the kidney is explored through the loin or otherwise. There may be no stone whatever, but instead, a kidney which will need nephrectomy or nephrorrhaphy, or which must be opened for one or more abscesses in the renal substance, or drained because of pyonephrosis. Or again, nothing may be found either about the kidney or the surrounding structures to explain the symptoms, or, on the other hand, some condition may be found on cutting into the loin which renders any detailed examination of the kidney unnecessary.

So varied are the disclosures derived from a considerable number of kidney operations that, whilst I am bound to impress upon you the great value of exploratory operations in many kidney or suspected kidney affections, I must warn you of the uncertainties which surround cases which require and ought not to be deprived of the operation. I am convinced that exploration, far from being made too often, is not resorted to often enough, that many patients are allowed to go on too long, often to a fatal length, suffering from conditions from which they would be at once freed by an operation. Two aspects of this field of surgery I would have you bear in mind: one is that the benefits of the operation ought not to be withheld from a person whose symptoms fail to yield to palliative treatment carried over a sufficient length of time; the other is that, on account of the great difficulty—nay, even the impossibility—in certain cases of forming a precise opinion as to the pathological cause of the symptoms, the object and uncertainty of the operation ought to be duly explained to the patient, and full discretionary power obtained for the surgeon.

The risks of the procedure must depend upon the nature of the ultimate operation. Whilst it may be fairly said that those attending upon a simple exploration or nephrorrhaphy are practically *nil*, the opening of a large abscess is not quite so free of danger, and the risks of nephrectomy are often very great; but, from my experience, I may tell you that you will in most cases, if properly selected, discover some morbid condition, if not stone, which will be relieved by the operation.

Gradual Development of the Method of Exploration.—It will occur, no doubt, to some of you to ask this very pertinent question: After you have cut down upon the kidney for stone and found none, can you be certain that you have not overlooked a small calculus, and, therefore, that the symptoms have not been really excited by renal calculus in spite of failure in finding one? To this I answer that I believe, at the present time, I can. Up till about three years ago I could not have said so much, but now I think I honestly can do so. This greater certainty arises from the more thorough examination which I now make of the kidney. For a long time after the first introduction of an operation the surgeon is very cautious, perhaps too cautious, in his procedure. He has not yet gained the confidence of custom nor the proficiency of practice. He feels his way step by step, fearing to be, or to be thought, rash, especially if the operation is one against which previous accredited and revered professional judgment had set the seal of disapproval. As experience ripens, however, and past successes justify and encourage further efforts, the steps of the operation advance further and further towards completeness. Thus has it been with nephrolithotomy and the search after calculus in the kidney.

At first it was thought sufficiently bold to cut down upon and expose the posterior surface of the organ, to palpate it, and probe its substance with a fine sharp needle. Next the tissues were separated from the front as well as the posterior surface, and a more thorough manipulation, the kidney being

compressed between finger and thumb, thereby made. A trocar and cannula were also added to the *armamentaria* of the operation, and thereby unsuspected pus was occasionally revealed, though no stone was discovered. After a time I made a point of turning the kidney out on to the surface of the loin, and examining it with the eye as well as with the finger and thumb, the needle and the trocar. The next step was to incise the convex border of the kidney and introduce the finger into the interior of the pelvis, then with the finger within and the thumb on the surface to squeeze every portion of the substance to detect any undue hardness or softness, resistance or flaccidity, of the organ. The renal pelvis and upper part of the ureter in this way are also thoroughly examined. Finally, as a last addition to the operation when no stone has been found, I now always suture the cut surfaces of the kidney with catgut sutures passed through the substance from back to front before returning the kidney into the abdomen; in this way hæmorrhage is checked and the wound in the parietes of the loin can be got to heal by first intention without the necessity of draining. By adopting this very thorough method of examination I believe I can make quite sure that if a stone is present I shall detect and remove it.

An Incised or Lacerated Wound of the Renal Substance will Unite by Primary Union.—It may be asked: What proof is there that a kidney cut into in the manner just described heals and does not remain as a permanently damaged or atrophied organ? The following case supplies a satisfactory answer to this question. A gentleman, aged 35, came to me in April, 1890, from Calcutta for the purpose of having an operation for what his doctors had told him was stone in the kidney. He had been suffering for a year with symptoms very characteristic of renal calculus, namely, renal colic, nausea with intense pain in the left loin gradually increasing; four months before seeing me he passed a small calculus, but after this he was never free long together from dull aching, and frequent sharp twinges of pain in the left loin. He was quite unable to take any but the slightest exercise, or to stand for more than a short time without inducing severe pain lasting for a considerable time. He had never felt pain in the right loin. The urine was neutral, of specific gravity 1015, and contained a trace of albumen. On April 27th, 1890, his kidney was drawn out on to the loin, incised, and explored with the finger within and the thumb on the surface of the organ, but no stone was found either in the substance, the pelvis, or ureter. The renal wound was sutured with a continuous catgut suture, and the kidney replaced in the loin. The wound progressed satisfactorily and had healed to a sinus when he began to complain of a sense of discomfort about the epigastrium and to look very cachectic; indeed, at length very ghastly ill. On the morning of May 20th, though there was nothing discovered to explain his appearance, it was remarked that he looked like a man with some malignant disease who would not long survive. At midnight on that day he vomited and passed *per rectum* large quantities of blood; then, after an interval of a day or more of freedom from the passage of blood, he again vomited and voided large quantities, and died of syncope on the evening of May 24th. On the following day a *post-mortem* examination was made by Mr. Bland Sutton, in the presence of Dr. Symes Thompson, a personal friend of the family, and an ulcer of the front of the stomach as large as a florin was found near the pylorus. The muscular coat of the viscus formed the base of the ulcer, and its edges were rounded off. The stomach and intestines contained large quantities of tarry blood. There was no blood in the peritoneal cavity. In the left kidney there was a linear scar extending through the renal cortex to the pelvis of the kidney. There was no pus or urine about it. The kidneys, with their ureters and the bladder, were removed, examined, and found healthy. No other pathological change save marked anæmia was found in the other viscera.

Even a kidney greatly disorganised will repair rapidly if all the diseased structure is removed. Thus in a case in which at the exploration for renal calculus six large tuberculous caseous masses were found, evacuated, and freely treated with iodoform, healing of the entire operation wounds took place by first intention.

The power of cicatrisation of subparietal wounds of the kidney has often been shown in persons who have lived for some

weeks after laceration of the organ and died of some other cause. In my work on *Surgical Diseases of the Kidney*, I have collected several such cases. In one such reported by Athol Johnstone, a man, aged 35, ruptured his liver and right kidney and fractured his seventh cervical vertebra. He died from the effects of the injury to his spine three weeks after the accident, and at the *post-mortem* examination there were found several ruptures all beautifully united on the anterior surface of the right kidney. A specimen in St. George's Hospital museum shows how well even a deep laceration and severe contusions may heal; a firm fibrous cicatrix is seen in the upper part of the right kidney to which the renal capsule is adherent. The kidney is otherwise healthy. The man from whom the organ was removed had been kicked by a horse and exhibited all the symptoms of a ruptured kidney. He recovered from the injury but died two years afterwards of enteric fever. In the pathological cabinet of the New York Hospital there is a specimen which shows repair of a rupture of the kidney that had been almost completely cut in two across the centre; "lymph is copiously effused between the separated surfaces and upon the exterior."

Accidental wounds of the kidney of an incised or punctured or lacerated character, *communicating with an open wound*, have healed in the same complete and happy manner as subcutaneous injuries. I have collected several instances, and amongst them one related by Mr. Ackerley, of Liverpool, of which you ought to know. A man, aged 30, was wounded in two places by the open blades of a pair of tailor's shears; one of the blades entered the abdomen about 2 inches above the anterior superior spinous process of the ilium on the left side, and from this wound about 4 inches of omentum protruded; the other blade penetrated near the spine, just below the last rib. Copious discharges of urine from the latter wound continued for two days. The omentum was cut away, and the bleeding vessels secured by ligatures. Recovery ensued in fourteen days.

Gunshot wounds also have taught us how great is the power possessed by the kidney structure of repairing and resisting disintegrating and atrophic changes. Sometimes a mass of fibrous tissue has filled up a gap made by a large bullet; in another instance a depressed solid fibrous cicatrix, with fibrous rays branching from it, was seen on each surface of a kidney which, some time before death from a different injury, had been penetrated from front to back by a ball. In another case a ball was found encysted in a kidney where it was known to have been for nearly a year.

Facts like these, known long before the days of renal operations, might have taught surgeons to have had faith in the capacity of repair of surgical wounds of the kidney, if only the patient was kept under favourable conditions, and the wound treated on modern aseptic lines. It has been only by degrees, however, that we have become convinced that a free incision into the kidney may be made without fear of uncontrollable hæmorrhage on the one hand, and with great certainty of good repair taking place on the other hand.

I believe the use of sutures passed through the kidney substance, so as to retain the cut surfaces together, is an improvement by restricting the bleeding and hastening union; but without their aid lacerated wounds of the cortical substance can heal by the effusion between the torn surfaces of coagulable lymph, or by the organisation of blood clot, which temporarily checks the further extravasation of blood and urine, and ultimately forms the cicatrix.

Let us now pass in review all the cases in which I have searched the kidney for stone without discovering any. They number twenty-eight in all up to the present time. In twenty-seven of them the lumbar incision was employed; in one, Langenbuch's anterior incision was preferred. The reason for adopting the anterior operation in this case was because I had removed two calculi from the pyonephrotic right kidney of the same patient some months previously. She returned complaining of intense pain at the left kidney, as bad as that she had suffered at the right before the removal of the stones. There was no enlargement to be felt in the left loin, so bearing in mind one of the arguments which have been used in favour of the anterior abdominal incision, namely, that pain referred to one kidney is often due to stone in the other, without the presence of any disease in the pain-

¹ *Op. cit.*, p. 167 *et seq.*

ful organ—and with the object of ascertaining the state of the kidney which had been cut for stone, I decided to proceed in such manner as to make an examination of both kidneys through one incision. This case will be again alluded to under its proper heading, so, without further comment upon it, I will only add that no stone was found in either organ.

My own experience does not lead me to think that pain is often, as a persistent feature, transferred from an affected to an unaffected kidney. I have known of no single instance of it in my own practice. I have always found that if pain referred to either kidney is due to an organic affection of one of those organs, it is always of the side of suffering. This transference of pain has only been exceptionally witnessed by others, and therefore as an argument for the abdominal operation it seems to me to have the value of all similar suggestions to make a procedure which can be only rarely advantageous the general practice.

With regard to the lumbar operation, it will be found to afford facility for complete exploration in most persons; but if the patient is very stout or very long-chested, there may be considerable difficulty in fully exposing the kidney without prolonging the incision forwards. Such physical conformation, more than any other argument that I have known advanced, has made me very carefully consider whether the anterior operation possesses an advantage over the lumbar, but I come to the conclusion it does not. I have found that by prolonging the loin incision forwards, keeping it as high as possible, and joining it with a vertical incision through the skin, carried upwards over the lower ribs, I get all the room required without opening the peritoneal cavity.

Of the 28 cases now to be considered I performed nephrectomy in 5 of them. In one nephrorrhaphy was indicated and done. In 5 instances abscesses of the kidney were found and opened. In no case did a fatal result ensue from an exploratory operation. In one case death occurred entirely as the result of an operation, without which, though in suffering, life might have been continued; and this was due to shock after a primary nephrectomy, in a man whose kidney was thoroughly disorganised, from the impaction of a calculus at the vesical end of the ureter, as was proved on *post-mortem* examination. In another case death occurred three days after a secondary nephrectomy, in a man several of whose genito-urinary organs were advanced in tuberculous disorganisation, whose life was one of intense misery and suffering, and could not anyhow have been prolonged many weeks, the operation being done for relief, not with the hope of cure. In 6 other cases death followed at more or less considerable intervals after, but in no manner due to the operation; one from hæmorrhage from a gastric ulcer; one from, as I believe, acute miliary tuberculosis of the lungs; one from abscess of the prostate; one from cystitis, prostatic calculus, and pyelonephritis; a second from the same conditions in which a calculus was impacted in the lower end of the ureter instead of in the prostate; and the sixth from a faecal fistula in connection with disease of the bowel near the cæcum.

In one case not included in this list I operated upon a lady, a patient of Drs. Frodsham and Steedman, of Streatham, who had been seen by Dr. George Johnson, for suppression of urine, due, as was supposed, to impaction of a calculus in one kidney or its ureter, the other having been in all probability destroyed by calculus many years before.

The 28 cases will be most conveniently considered in groups as follow:

1. Tuberculous nephritis and pyelonephritis.
2. Abscess of the kidney—scrofulous or otherwise.
3. The effects of former perinephritis caused by sprains or injuries to the back.
4. Movable kidney.
5. Abscess of the prostate.
6. Calculus of the prostate.
7. Calculus in the lower end of the ureter.
8. The effects of former passage of a calculus.
9. Renal calculus simulated by disease in neighbouring organs such as the cæcum and stomach.
10. Spinal disease which had caused perinephric suppuration.
11. Undetected renal calculus.
12. No sufficient cause detected.

Tuberculous Pyonephritis; Two Cases.—In two cases suspected

of renal calculus, disseminated tuberculous deposit (in one of them accompanied with abscesses and some dilatation of the pelvis of the kidney) was discovered. These cases raise important but different questions. The first of these was a young gentleman, whom I saw first in August, 1888, with Mr. Milner, suffering from pain in the right renal region with hæmaturia and pyuria; he was a thin, delicate youth, with a family history of phthisis. I expressed my opinion that the case was tuberculous, recommended delay, and saw nothing more of him till July, 1889. In the interval he had been seen by Mr. Jalland, of York, for attacks of slight hæmaturia and severe pains in the loin which from their character led Mr. Jalland very naturally to diagnose renal calculus. On July 19th, 1889, he was suffering much pain but had improved in general health, though still thin and weakly-looking. No evidence was found of tuberculous disease having developed in the testes, bladder, prostate, or vesiculæ seminales, and there was no swelling in the renal region, but neither was there any tenderness about the kidney. The urine was acid, slightly turbid, very pale, specific gravity 1012, and deposited a granular sediment equal to one-tenth its bulk. There was one-ninth to one-tenth albumen and under the microscope were seen very numerous granular pus corpuscles, no casts, no crystals, and no blood. On the next day the kidney was exposed and found to be so generally infiltrated with tuberculous disease that I removed it at once. During the day after the operation he passed twenty-eight ounces of urine. For a time he promised to make a rapid and complete recovery, but after three or four weeks I began to suspect, from his temperature, rapid pulse, loss of appetite, and hacking cough, that his lungs were the seat of disseminated tubercle. All this time he was passing a more than natural quantity of urine of low specific gravity, but quite free from albumen, pus, blood, and crystals. On September 2nd he was sent into the country, but he rapidly lost ground, and at the end of the week died in a state of low muttering delirium. Dr. Sampson, of Painswick, who made a *post-mortem* examination, found the left kidney to be made up of several large cysts, around each of which was healthy kidney structure; the other abdominal organs were healthy; the thorax and head were not examined.

It is noteworthy that there was no evidence of cystic disease of the kidney operated upon—a fact sufficient to disarm suspicion that the other kidney was so affected, because cystic kidney is very generally a bilateral condition. It is also important to notice the large amount of urine excreted by this cystic organ, and that this excretion was not in the least interrupted by so severe a disturbance to the system as nephrectomy.

As in so many instances recorded of cystic degeneration of the kidneys, there was nothing except the rather low specific gravity of the urine to suggest any disease of the second kidney, nor was there any enlargement to be detected, even when the abdomen was examined under the influence of an anæsthetic, and this in a thin person. The case has made me very suspicious of the state of the second kidney when immediately after nephrectomy I find a large quantity of urine of low specific gravity begins to be secreted. It makes me mistrust the soundness of the remaining kidney; and in one case I have operated on since for calculous pyonephrosis my fears were quickly realised.

In the second case, a man aged 30, began to complain of pain in the right loin and right side of the abdomen after recovery from an attack of peritonitis in February, 1890. In the following May he was admitted into a medical ward for constant pain in the right side of the abdomen with dullness, and a firm mass was felt on deep palpation in the ilio-costal space. This mass could be moved forwards by pressure in the loin, but did not move with respiration. There was no dullness on percussing over the front of the lump. The apex of the right lung was slightly diseased. The urine was 1020, clear, pale, and without blood, albumen, or pus.

He was transferred to the surgical ward for exploration on June 18th, 1890, and it was noticed as a very remarkable thing that when the loin was cut into, the firm mass, which had been felt quite distinctly before, had vanished. The kidney was brought out on to the loin, and seemed to be of a mottled colour with several small white tuberculous deposits in its substance. There was no stone. He recovered, and left the

hospital with his symptoms little, if at all, relieved. In a month or two he complained of very severe pain in the right iliac fossa, and an abscess formed and discharged itself through the scar in the loin. Mr. Sutton, who saw the patient at his own home, reported: "The temperature and general nature of the illness, taken together with what I knew of the patient in the hospital and saw at the operation, led me to the opinion that his condition was due to tuberculous mischief about the cæcum, probably of the vermiform appendix." The abscess did not close, and, later on, fecal matter escaped through the sinus. Mr. Sutton therefore examined the sinus under chloroform, and found a large opening in the posterior aspect of the ascending colon, near the cæcum. The patient died some months later, but a *post-mortem* examination was not permitted.

The previous attack of peritonitis, the ill-defined mass in the right ilio-costal region, which disappeared in the operation position (probably infiltration of the cæcum and appendix), the comparatively slight amount of disease in the kidney, and the subsequent fecal fistula, render it impossible, I think, not to concur with Mr. Sutton in thinking that disease about the cæcum was the cause of all the symptoms in this case. It is well known that intestinal irritation simulates nephralgia by causing lumbar and iliac pain, sometimes of a paroxysmal character, by vomiting, tenderness on pressure, and urine loaded with urates.

The case I have referred to above, in which a gastric ulcer of old standing was the only pathological condition found *post-mortem*, may have had in this ulcer the foundation and cause of the symptoms, even though these symptoms were referred to the left and not the right kidney. The fact that the patient had passed a small calculus does not allow of the case being placed under the class in which the symptoms were due to "the effect of the former passage of a stone," because, in spite of a thorough examination after death, no pathological change whatever was found in any part of the urinary system, and no disease in any other organ except the ulcer of the stomach. Dr. Ralfe has reported a case² in which many of the symptoms of right renal calculus were excited by a duodenal ulcer, and another in which they were due to intestinal irritation.

In suspected renal calculus one of the errors of diagnosis to be borne in mind is the possibility of the symptoms being caused by ulcer of the cæcum, duodenum, or stomach, or by some other form of intestinal affection. In this connection let me mention that I have known other forms of renal disease simulated by diseases of the large bowel; thus cancer of the cæcum has been, by a well-known hospital physician, mistaken for movable kidney, and was later on the cause of an enormous abscess behind the right kidney, which had to be opened through the loin; and another case I operated upon for what was suspected to be a renal abscess, a patient of Mr. Court, of Staveley, proved to be an abscess in the cellular tissue below and behind the kidney, the origin of which was malignant disease of the sigmoid flexure.

Renvers has published a case of intermittent hydronephrosis with gastric crises.³

2. *Abscess of the Kidney.*—In 5 cases abscess in the kidney was found instead of a calculus. All the patients were males; 3 were tuberculous, in one the abscess was secondary to long standing and neglected stricture of the urethra, and the fifth occurred in a gouty man in whom no definite cause for suppuration was found. In the kidney of this man, aged 43, with stricture of the urethra, there was a small suppurating cyst at the posterior part, and the lower half of the organ was almost entirely converted into a large abscess. These were opened, and the cut edges of the kidney stitched to the margins of the skin. A urinary sinus resulted through which all the urine secreted, amounting to about 40 ounces in 24 hours, was discharged into a urinal worn at the loin. It was proved to perfect certainty by the result of the operation that the right kidney was the only renal excreting tissue he had, and thus the operation not only relieved him of his suffering, but, by stopping further destructive changes in his kidney, saved his life. He lived for two years and nine months after the operation. In 2 of the 3 cases of tuberculous abscess nephrotomy failed to relieve the symptoms, and consequently nephrectomy was performed, in one two months

and in the other a few days after the nephrotomy. In both cases there were multiple abscesses and pyelitis. In neither did I feel justified at the time to nephrectomise. In one case some hope was entertained for a few weeks that improvement would be permanent; this was, however, disappointed, and the kidney was removed piecemeal from within its capsule two calendar months after nephrotomy. Death followed on the third day from exhaustion, and at the *post-mortem* examination, though the right kidney was unaffected, the prostate, bladder, and left vesicula seminalis as well as the left testis were all the seat of advanced tuberculous disease.

In the other case very acute febrile symptoms with rapid increase in the size of the explored kidney occurred immediately, so that, after consultation with Dr. Powell as to the state of the man's lungs, I removed the kidney on the third day after nephrotomy. The excised kidney was greatly enlarged from acute inflammation and general tuberculous infiltration. The patient made a slow but steady recovery, and is now, fifteen months after operation, at his work and well. A small superficial sinus in the loin was closing when last seen in January.

The third tuberculous case is the most interesting and encouraging of all. There were marked symptoms of renal calculus, and four small calculi passed by him at different times are in the possession of his doctor, Mr. Pound, of Odiham. For ten weeks he had been completely disabled. On bringing the kidney (right) on to the surface of the loin, it was found enlarged and botryoidal in outline from the bulging of six distinct and separate cyst-like swellings, each of which contained thick yellow cheesy material. Four of these were situated along the convex border of the kidney, one on the anterior, and the sixth on the posterior surface. They were all opened freely and the contents evacuated; the inner walls of the cavities were then well rubbed with pellets of cotton-wool, and iodoform was liberally sprinkled over the interior. The kidney was then put back into position and the wound closed by buried and superficial sutures. All symptoms subsided at once—except that he still passed a trace of pus in his urine—and the wound healed by the first intention.

In the fifth case an abscess in the left kidney, containing only about 3ij of pus, was evacuated. The man, aged 34, was of robust appearance, and for three years had suffered from attacks of gout. His symptoms had existed for two years, and consisted of severe pain in the left loin, suddenly coming on and extending along the crest of the ilium to the left groin and testis; vomiting and rigors, frequent micturition, and blood, pus, and numerous phosphatic crystals in the urine. The operation was followed by complete recovery, and the patient called at the hospital the following year to report himself as continuing well.

In all these five cases of abscess there was localised pain in the renal region, in three tenderness on pressure, in all blood and pus in the urine, in four vomiting or retching, in three frequency of micturition, in two rigidity of the abdominal muscles of the affected side, with some fullness and dulness in the loin. Of the five cases, one died after secondary nephrectomy, performed only as a means of relief—too many other organs being affected with tubercle to permit of a hope for more than relief. The other four cases received great benefit from—and it is, perhaps, hardly too much to say owed their lives to—the operations.

TRAUMATIC HYDRONEPHROSIS.

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TRAUMATISM is nowadays usually enumerated by systematic writers on renal diseases as one of the causes of hydronephrosis. The earlier cases recorded as belonging to this category are not always clearly interpreted, and the treatment recommended has varied not a little. Traumatic hydronephrosis has been regarded as of great rarity; Rayet does not allude to it,¹ but probably most surgeons of experience could recall cases within their knowledge. Of 142 cases of hydrone-

² BRITISH MEDICAL JOURNAL, 1888, vol. 1, p. 183.

³ Berliner klinische Wochenschrift, December 31st, 1888.

¹ Rayet, *Maladies des Reins*, 1841, tom. iii.