about the umbilicus, and only as time goes on do these spasms subside and the pain settles down in the appendix region, but tenderness and rigidity are generally marked from the first.

Now, having gone as far as possible in the way of getting a probable diagnosis, the question arises: Is the case one requiring immediate surgical treatment or not? It may quite well be that it is not possible to answer this question definitely at the first visit, but in any case it should be answered if possible within the first few hours, not later than twenty-four hours. Hence, if it is not answered at the first visit, frequent visits should be made till the practitioner has come to a definite decision. May I at this point put in two pleas for the surgeon? If the practitioner intends to operate himself, should operation be necessary, good and well; he has watched the case from the first and can choose his own time and his is the responsibility. But if he intends to get someone else to operate, may I suggest that if there is a question of operation arising, the surgeon should be called in at the first and be allowed to take part in the decision. After all, if a surgeon is called in and decides to operate the whole responsibility is transferred to his shoulders. It is for him to choose what he considers the most favourable moment and therefore he ought to have the opportunity of judging as early as possible. The second plea is that, if possible, he should be called in during the daytime. Night operations are very unsatisfactory. The illumination is often imperfect, things are not ready and there is something in the atmosphere of a house at midnight which is inimical to operation and which is apt to tempt the surgeon to wait till next morning. Of course there are many cases where it is not possible to call the surgeon sooner, but it is worth while bearing this point in mind.

OPERATION.

Now, which are the cases requiring early operation? All ruptures of the alimentary canal, all strangulations, internal herniae, etc., and all gangrenous processes and haemorrhages should be operated on without delay, and if these can be definitely diagnosed there can be no further question. The chief difficulty as to immediate operation is in connexion with the various inflammatory conditions. Taking appendicitis as a type, if one were sure that there was a perforation of the appendix there would be no question of the advisability of immediate operation; but many cases of appendicitis which begin pretty acutely subside without suppuration and are more safely and satisfactorily operated on during the quiescent stage. Again, not all forms of peritonitis are suppurative or require operation, such as those following rupture of a simple ovarian cyst, tuberculous peritonitis beginning acutely, etc.—indeed, they would not be benefited by operation.

In these cases we must be guided by the gravity of the symptoms and the course of the case during the first day. Intense pain from the first, continuing and spreading, generally implies a grave condition. Exceptionally high temperature, where there is nothing else to account for it, has a certain importance. The usual temperature of acute appendicitis is 102° to 103° ; if it is higher, from 104° to 105° , the condition is generally serious. The rate and character of the pulse are also important. Steady increase in the pulse rate and depreciation in quality are bad symptoms. A pulse of 120 or over, becoming thready, generally implies immediate operation. At the same time the very gravest conditions may exist and yet the pulse be below 100. The general condition and aspect of the patient must also have a considerable influence, especially marked depression of vitality, greyness, abdominal facies, dryness of the tongue, etc. These cases must be carefully watched during the first few hours after the onset of the disease, and if the patient's condition is becoming worse it is best to operate. In fact, the rule applied to hernia is also applicable here, namely, "When in doubt, operate," provided it is done during the first twenty-four hours. If the inflammatory process has not extended to the peritoneum, the operation during the first twenty-four hours is just as safe as in the quiescent stage; if it has already extended to the peritoneum the patient may be saved from great risk and a long illness. It is impossible to lay down absolute rules in these cases, but a careful consideration of the various points to which I have referred will guide one in atypical cases. The great point is to be fully alive to the gravity of all these cases with acute abdominal symptoms and to remember that the safety of the patient may depend on the adoption of prompt measures.

A Clinical Lecture

ON

DILATATION OF THE GALL BLADDER SIMULATING OVARIAN CYST.

Delivered at the Samaritan Free Hospital for Women.

By ALBAN DORAN, F.R.C.S.,

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THE relation of cholelithiasis to pregnancy and gestation is a subject of high interest which has been much investigated of late by Potocky and other French obstetricians. I have discussed it elsewhere in respect to two cases under my own treatment—the first an example of old calculous obstruction of the common duct,¹ the second an instance of a large bile cyst in the liver apparently traceable to a blow during gestation several years before it was opened and drained.² The gall bladder and the three ducts were unobstructed. In a third case, on which this lecture is based, a cystic abdominal tumour developed in a multiparous woman, and proved to be a gall bladder with a calculus incarcerated in the cystic duct.

The relative frequency of cholelithiasis in women and its relation to gestation cannot be discussed in these notes. I shall confine myself to the consideration of cystic gall bladder as a form of abdominal tumour in female subjects, reviewing my own experience and that of others. For dilated gall bladder, a common result of cholelithiasis, sometimes assumes characters which may cause it to be mistaken, at least on superficial inspection, for an ovarian cyst. Hence it will be instructive for us to review all reliable reports of large cystic gall bladder in women. I need not dwell on dilatation of the gall bladder in its lesser degrees, where the question of cholelithiasis and its surgical treatment is all-important, the distension of the gall bladder being a secondary matter offering no difficulties in diagnosis. This subject is amply treated in the systematic textbooks written by Osler, Waring, Rolleston, and others, and in the well-known surgical works of such authorities as Langenbuch³ and Mayo Robson.*

First of all I shall dwell on the history and treatment of my own case in full.

Mrs. B., aged 50, was admitted into my wards in the Samaritan Free Hospital on March 4th, 1905. She had borne eleven children, all delivered at term spontaneously and all living; the puerperium was on every occasion free from any grave complication. The youngest child was over 5 years old. Twelve years before admission she consulted Dr. W. Millar, of South Tottenham, for a small swelling in the right side of the abdomen. After that date she passed through her last five pregnancies. The tumour in the meantime grew very slowly, but became painful.

On examination, the patient seemed to me lean rather than cachectic. The conjunctivae were pearly white, and the urine contained no morbid products; the pulse 108, the temperature hardly above normal. The menopause had been complete for two years. On inspecting the abdomen, which was almost concave, a very prominent body could be seen pushing forward the parietes on the right side, between the hypochondrium and the groin. It was tender to the touch and elastic; fluctuation could not be clearly distinguished; its surface did not feel quite smooth. There was distinct resonance between its upper limits and the lower border of the liver, and also over the left half of the tumour. Not only was the tumour fairly movable laterally and from before backwards, but its lower pole could be displaced downwards till it reached Douglas's pouch. The uterus was small and freely movable, the fornices free.

When there is a doubt about an abdominal tumour in a woman, even when it lies entirely on one side of the middle line, that new growth very often proves to be ovarian.† Two of the physical signs above noted were deceptive, still I bore dilated gall bladder in mind.

I operated on March 7th, 1905, Mr. Butler-Smythe assisting and Mr. Morley administering chloroform and ether. I made a vertical incision through the fibres of the right rectus muscle close to its outer border. Then a body shaped like a big cucumber was drawn out of the wound. Its lower pole was rounded and free whilst over its uppermost part ran a tongue of liver tissue, Riedl's lobe, for nearly 3 in. to the left somewhat downwards.

I laid open the lower pole of the tumour by a vertical incision. About one pint and three-quarters or a litre of a turbid pale fluid came away, specific gravity 1008, neutral, albuminous, and free from bile. I then extracted 13 big faceted calculi and 217 smaller gall stones varying

* Dropsical gall bladder is not invariably due to cholelithiasis. Charron has described a case of dropsy of the gall bladder which developed after typhoid fever as a sequence of simple inflammatory disease of the cystic duct, independent of the conditions which engender cholelithiasis.

† I find that Kocher⁴ expressed the same opinion in respect to his own case of tumour in the right side of the abdomen. "The conspicuous bulk of the growth at once turns the thoughts of the observer to the commonest form of abdominal tumour, ovarian cyst."

in size from the bulk of a millet seed to that of a pea, all bearing facets. On raising the walls of the cyst, which was clearly the gall bladder and was free from any kind of adhesion, I found that the cystic duct was obstructed by a big stone, which I extracted through a longitudinal incision made in the walls of the duct. The incision was closed with a continuous No. 0 catgut suture, then I united the edges of the incision in the gall bladder with the same material.* The cystic gall bladder retracted considerably; I did not attempt to fix it to the parietal wound, which was closed without drainage. The operation caused but little constitutional disturbance, and the patient was discharged on April 4th, a month later. At that date there was resonance upon the ribs and the fundus of the gall bladder had retreated under the edge of the liver so that it could not be defined on palpation.

Having related my own experience, I will now turn to the records of other observers. For clinical reasons the cases which they report may conveniently be divided into three groups:

I. Cystic tumours of great size, extending to the left of the middle line (Terrier, Lawson Tait, Gersuny).

II. Cystic tumours filling the greater part of the right side of the abdomen, liable to be taken for ovarian cysts, fixed to that side by parietal adhesions (Kocher, Tuffier, Author).

III. Relatively small dropsical gall bladders associated with a second tumour of more doubtful character (Reymond, Tischendorff, Chance).

Class I.—This class includes all cases of cystic gall bladder forming a large tumour which encroaches considerably on the abdominal cavity to the left of the middle line.

Terrier's case⁴ is perfectly clear. A woman, aged 50, suffered from a very large fluctuating tumour, which was tapped in order to relieve dyspnoea; 24 litres (over 42 pints) of gamboge-coloured fluid came away. The cyst, which proved to be the gall bladder itself, was strongly adherent to adjacent structures, and a calculus was found incarcerated in the cystic duct. The greater part of the cyst was resected, the edges of the remaining portion being sutured to the integuments. The cavity was then drained, with satisfactory results.

Lawson Tait's case⁵ is in one respect the most instructive in the whole series, for it misled that experienced authority himself. The patient, aged 40, was sent to him by her doctor, "with a large abdominal tumour which preserved all the appearances and physical signs of a parovarian cyst, and as such I had no hesitation in regarding it." Tait operated. "On emptying the tumour, I found to my amazement that it was a gall bladder enormously distended." It contained 11 pints of a clear gluey fluid, two or three free calculi, and another "as large as a filbert nut impacted in the neck of the gall bladder. This I removed with a great deal of difficulty. . . . I stitched the opening of the gall bladder to the opening in the abdominal wall, which of course had been made in the original (*sic*) position in the middle line close above the pubes." The wound was drained, and the patient was in good health two years after the operation.

Eleven years ago Gersuny of Vienna contributed to the *Wiener med. Wochenschrift* (1894, pp. 2046, 2048) an article entitled *Die Indicationen zur chirurgischen Behandlung der Cholelithiasis*. Among the cases was one where the fluid in a cystic gall bladder was sufficient in amount to press seriously on the right lung, so that, as in Terrier's patient, there was dyspnoea. The sex and age are not given in this report,[†] but Dr. Gersuny has kindly informed me that the patient was a woman aged 50. She had a fit of colic, probably due to gall stone, and a cystic tumour developed within a few weeks. It extended to the left of the middle line and almost down to the right groin. After careful examination it was found to be connected, not with the ovary, but with the liver. According to the report recently forwarded to me by Dr. Gersuny, an incision was made in the lumbar region, because rupture of the gall bladder had been diagnosed, and there was bulging in the right loin. An enormous quantity of bile, with some small gall stones, came out. "I excised a small piece of the sac that was united to the abdominal wall; the peritoneum seemed not to be open." The excised portion proved, on microscopical examination, to be part of the wall of the gall bladder. A calculus remained encysted in the cystic duct or neck of the gall bladder, and a fistula developed; but the patient, who remained in good general

health ten years after the operation, declined to submit to any further surgical treatment.

Although these cases of extreme cystic dilatation of the gall bladder seem almost confined to female patients, the very largest (Erdmann⁶), if we may feel sure of the diagnosis, occurred in a man aged 24. Sixty to eighty pounds of bile-stained fluid were removed by tapping; the fluid collected again slowly, but the patient left hospital and never returned. As no exploratory operation was undertaken, the relations of the cyst remain unknown. It was most probably a cystic gall bladder, but it might have developed inside the liver as a bile cyst, the gall bladder and ducts remaining normal. I have already reported a similar case in my own operative practice,² with notes on others already published. A cyst of this kind is figured without any history, in Hektoen and Riesman's *Textbook of Pathology*, p. 317.

Class II.—Cystic gall bladders forming distinct tumours of considerable size, but confined to the right side of the abdomen, are of much interest in respect to diagnosis. A tumour of this class may simulate very closely a cystic right kidney or an ovarian cyst displaced and adherent to the structures in the right lumbar region, a condition not rare in multiparae. Kocher's case⁷ is the most typical of this class. A woman aged thirty was sent into hospital subject to a tumour which had been diagnosed as an ovarian cyst. On careful inquiry it transpired that during the fifteen months which had passed since the swelling was first observed the patient had sudden attacks of pain, accompanied on one occasion by transitory jaundice. Kocher detected a tense oval tumour "of the size of a man's head" in the right side of the abdomen. It was freely movable, its lower pole could be pushed down below the level of the pubes, but the uterus and appendages were not connected with it. It proved to be a large empyema of the gall bladder, with a wall about a centimetre, or nearly two-fifths of an inch, in thickness. A great quantity of pus and about forty-five gall stones were removed. A drainage tube was inserted and the track ultimately closed; no bile ever issued from it.

About ten years ago Tuffier⁸ had under his care a man, aged 40, with a tumour of the size of a fetal head, situated between the false ribs and the umbilicus. It was round and smooth and followed respiratory movements. It could not be pushed back into the lumbar region. The history and the fact that dullness on percussion could be traced from the tumour to the hepatic region soon dispelled the suspicion that the tumour might be ovarian. The patient had been subject for seven years to epigastric pains coming on after meals. As in my own case, there was no history of sickness nor of jaundice. Movable kidney had been diagnosed and a belt applied; it of course gave no relief. The patient was kept at rest for several months. The swelling became enormous, and in this later stage might well have been taken for an ovarian cyst—indeed, it almost came under Class I. The result of operation was remarkable, the walls of the tumour were found to be extremely thin, so as to appear quite transparent. Hydatid cyst was suspected, and a litre of fluid as clear as crystal came away. Then 22 large calculi were extracted, and one more was found incarcerated in the upper part of the gall bladder, which was drained, the drainage track closed, permanently it is implied, on the fifteenth day. Tuffier quotes four other cases where the fluid in gall bladders obstructed by calculi was watery, as in this instance; the explanation is not mysterious, complete obstruction of the cystic duct prevented any bile from entering the gall bladder, and the mucoid secretion became watery.

Lastly my own case, already described, must be included in this class.

Class III.—Three cases where there appeared to be two tumours or a double tumour in the right loin deserve notice here, as two at least occurred in women. Diagnosis was obscure, and cystic gall bladder with a complication was detected at an exploratory operation. The first patient (Reymond's⁹) was a woman, aged 38, who, when 36, had undergone an operation for tubal abortion. A tumour developed in the right loin, another could be detected at the site of the gall bladder; the two moved together. A lumbar incision was made. A big, deeply-congested movable kidney was exposed. It adhered to a dilated gall bladder, which compressed the structures entering its hilum. The kidney was detached and fixed, then it soon diminished in size. Cholecystotomy was performed a week later; 60 grams of pus and four calculi were found in the gall bladder; the ducts were free. The drainage track was closed by operation. Tischen-

* For the latest views on the operative treatment of the cystic gall bladder see William and Charles Mayo: "A Review of 1,000 Operations for Gall-stone Disease," *Amer. Journ. Med. Sciences*, vol. cxxix, March, 1905, p. 375.

† Dr. Gersuny says that the same is the case with other reports of this case, in the *Deutsche med. Zeitung* and other journals, sometimes quoted.

dorff,* according to Reymond, likewise detected a movable kidney adherent to a calculous gall bladder. His patient also underwent two operations—nephropexy and cholecystotomy.

Chance (Manchester)¹⁰ treated a sterile married woman, aged 30, for menorrhagia and pelvic pains. She had observed a swelling in the right side of the abdomen for about a couple of years. It was soon found to be not ovarian, as it was clearly continuous above with the liver. Ten months later Chance detected a large movable mass, behind the tumour, in the region of the right kidney. High temperature and hectic set in, so that tuberculous disease of the kidney was suspected, and on three occasions great quantities of urine were passed suddenly. Yet the urine was free from any morbid condition. Thorburn operated; the tumour in the loin proved to be a portion of the right lobe of the liver enlarged and displaced. The gall bladder contained 200 small gall stones, and a large calculus was impacted in the cystic duct. It was not completely removed. The hectic symptoms, never accounted for, disappeared, and the enlarged lobe of the liver steadily diminished in size. Dr. Chance has kindly informed me that in March, 1905, nearly three years after the operation, the patient was in very good health. The urine was normal and none of the morbid symptoms had recurred.

The sudden escape of a great bulk of retained yet healthy urine probably implied that the enlarged lobe of the liver pressed on the pelvis of the kidney, that pressure being occasionally relieved. When the gall bladder was emptied and the enlarged lobe diminished in size the relief became permanent. The case somewhat resembles Reymond's and Tischendorff's, where the dilated gall bladder pressed directly on the kidney.

Summary.—No general conclusions can be drawn from so small a series, but a few facts in association with the six cases in Classes I and II seem worth consideration. We find in regard to age that, with one exception, the patients were not young (Terrier, Gersuny, Author, 50; Lawson Tait, Tuffier, 40). On the other hand, Kocher's patient was but 30 years old, and it is well to bear in mind that the largest cyst of this kind on record, if the diagnosis were correct, developed in a man only 24 years of age. As to fertility, my own patient was a multipara phenomenally lucky in her eleven pregnancies and labours, whilst Terrier's patient had borne five children. Tuffier's, however, was a nun, and evidence in the remaining cases is defective. Thus the alleged relation between cholelithiasis and pregnancy receives no definite support from the clinical history of these cases.

We need not be surprised at the absence of jaundice in all these cases, for the distension of the gall bladder is due to obstruction of the cystic, not the common duct. In Kocher's case alone was there a history of a transitory attack,† but he did not detect a trace of jaundice when he examined the patient. Thus the possibility that an abdominal cyst is a distended gall bladder cannot be excluded on the ground that the patient is free from jaundice.

The rate of development of these cystic gall bladders is, as a rule, exceedingly slow. In my own case the tumour had been twelve years under the direct observation of the patient's doctor. A swelling had been noticed in Terrier's case for eight years, and in Tuffier's for five or six years. Kocher's patient had known of the presence of a tumour for one year and three months. According to the manuscript notes which Dr. Gersuny recently forwarded to me the gall-bladder cyst in his case developed rapidly; in the original report it is stated that the patient's doctor was not to be found when she was admitted into hospital, so that no accurate clinical history could be obtained. Unfortunately Lawson Tait published no history of his case. We must remember that when an ovarian cyst undergoes axial rotation in pregnancy and is pushed into the lumbar region its rate of growth is usually slackened, but it never remains stationary in size and harmless for several years. Pain and tenderness are variable symptoms. Local peritonitis, as Mayo Robson has shown, is, as a rule, absent in uncomplicated enlargements of the gall bladder. In Terrier's case alone was adhesive peritonitis marked, whilst in my own, though there was a total absence of any visible sign of peritonitis, the tumour was tender on pressure. This absence of peritonitis accounts for the absence of the dull, continuous pain frequent in cases of displaced ovarian cysts

which nearly always set up local peritonitis. In the series of gall-bladder cysts here reviewed a distinct history of colic was not the rule.

In shape the dilated gall bladder is in its earlier stage always pyriform. Later on, as in my own case, it tends to assume the form of a cucumber (Langenbuch). When the distension is extreme, the gall bladder is converted into a large oval cyst extending considerably to the left of the middle line. I have already spoken of the marked mobility which is the rule in these cases. We are not to forget that the lower pole of the cyst may be pushed below the level of the symphysis (Kocher) or into Douglas's pouch (author),* whilst Osler has described a case where a dilated gall bladder was found attached to the right broad ligament.¹¹ Had it been as large as some of the cysts here described, error in diagnosis would have been easy.

As regards resonance and dullness, we should remember Mayo Robson's words: "Percussion by no means always discovers dullness coextensive with the tumour, and is especially deceptive if the surrounding intestine be distended; dullness on percussion is therefore a very variable sign, palpation will be found more trustworthy." My own case showed that intestine may slip into the groove between the edge of the liver and the gall bladder; resonance on percussion was so marked that I could not feel sure that the cyst was really a dilated gall bladder. Intestine may adhere to the front of an ovarian tumour fixed by adhesions in the right loin. In that case, however, the tumour simulates a cystic kidney rather than a gall bladder.

Fig. 1.—Cystic tumour of gall bladder (Author's case). Diagram indicating the area of hepatic dullness, the area of dullness over the left part of the front of the cyst, and the area of resonance over right part and between the cyst and the liver.

Fluctuation is seldom indistinguishable in an ovarian cyst, but it was also quite distinct in the very big cystic gall bladders described by Lawson Tait, Terrier, and Gersuny, where the walls were thin; it could hardly have been absent in Tuffier's case. In Kocher's and my own the tumour was firm or tense. Mayo Robson teaches that the average cystic gall bladder is too tense to fluctuate. Much depends upon the thickness of the wall of the gall bladder, very variable for well-known reasons even in typical cases of cholelithiasis; and, turning to the present series, Kocher's and Tuffier's cysts showed an extreme difference in this respect.

I need not dwell on those essential features of gall-bladder cysts which are revealed by an exploratory operation, namely, the fluid and the presence of calculi. For when once the cyst is proved to be not ovarian, but the product of cholelithiasis, the question of diagnosis, the subject of this lecture, is closed. In conclusion, I may observe that the diagnosis of a large dropsical gall bladder from an ovarian cyst occupying the right side of the abdomen is seldom attended with much difficulty. The above recorded cases, however, show that a cystic gall bladder may to a certain extent simulate an ovarian cyst, and on that account I have discussed this class of abdominal tumour at some length.

* Reymond gives the reference "Tischendorff in Calot, *Thèse de Paris*, 1850, p. 202." I cannot obtain this Thesis, and am not sure of the sex of the patient.

† Terrier's patient had passed dark green urine for two days during an attack of influenza six months before operation.

* It has even been found engaged in the sac of a right femoral hernia (Waring).

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SOME SURGICAL NOTES ON TUBERCULOSIS OF THE KIDNEY.*

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As earnest thinking men you will all, I feel sure, at once agree with me that it is not so much the clever and the novel as the useful we should ever hold in highest esteem in our art. And especially in these days do I appeal to your judgement, at a period in which we find ourselves literally engulfed in a chaos of new surgical procedures, evoked by the great discovery of your fellow countryman, Lister, do we not need as never before to investigate, to deliberate, to reject and finally to accept the good?

The great keynote of this earliest decade of the twentieth century ought not to be something new but the establishment of that which is good and the unification of the surgery of the world. I would far rather make all men recognize and do the well-known right thing than effect some large discovery and attract wonder and applause.

It is because of this strong conviction that I have not aspired this evening to the novel so much as the useful. May I venture also to suggest that I have come thus far hoping too for a little of that collegial fellowship which was the notable mark of English and American intercourse throughout the latter half of the eighteenth and the first half of the nineteenth centuries—in the days of the two Hunters, of Smellie and the great Blundell, of Sir Astley Cooper and Sir Benjamin Brodie, and a galaxy of departed braves whose mighty names still shine in your British firmament with ever-increasing lustre?

HISTORICAL.

It was in 1871, as you will recall, that Simon extirpated the kidney and then published that considerable work of his; and now about thirty-four years later the surgery of the kidney, as I grasp the subject, has pretty nigh reached its acme under the existing conditions of surgical science.

It is a pleasure in looking down the intervening years to recall the inestimable pioneer services of your own late lamented Knowsley Thornton, and then of David Newman of Glasgow, and of Hurry Fenwick, all in this field, and I shall be happy indeed if my conclusions merit the approval of these veterans of the service. Although, as I have said, thirty-four years have elapsed since the field of aggressive renal surgery was opened up, in reality the operation for tuberculosis is still in its teens, for our surgeons were long held back from entering this fruitful field by a total misconception as to the pathology and clinical history of the disease.

Three serious errors blocked the path of progress: in the first place renal tuberculosis was seen by the pathologist only in cases of advanced or of general tuberculosis, so that the impression obtained that the disease was either a local expression of a general condition or was almost invariably bilateral. In the second place the convenient and well-sounding but unfortunate term, "urogenital tuberculosis," was long current, conveying the false impression that the disease of necessity involved more or less of the entire urogenital tract *ab initio*; and in the third place it was commonly assumed that the tuberculosis was of an ascending character, advancing from the bladder upwards, and therefore ineradicable. The true facts did not, as we shall see,

warrant the clinician in making a general application of a single one of these dicta.

Let me quote Rokitsansky¹: "Tuberculosis of the kidneys is but the partial expression of a primary tuberculosis of the urinary organs, and in the male commonly a part of a combined tuberculosis of the urogenital system." Guyon, writing in 1888, declares: "We do not know of a single case of renal tuberculosis, primitive and unilateral, without lesions of the same kind in the bladder, the seminal apparatus, or in other organs." I can but pause to note with Schede of Bonn, that Schmittlein, writing as early as 1863, was the first to distinguish clearly between a urogenital tuberculosis arising in the male genital organs, and secondarily involving the bladder, the ureter, and lastly the kidney, and a true primary renal tuberculosis which descends the ureter to invade the bladder from the opposite direction. Even as late as 1888 Steintal² showed how hopelessly at variance were the current opinions touching this vital question.

As I con the evolution of the history of our subject the following dates are important:

1. The period of recognition of the disease up to 1860.
2. The collection and sifting of a number of cases with both pathological and clinical histories in view, 1863-1885.
3. The stimulus to surgical thought given by Simon's first renal extirpation in 1871.
4. The discovery of exact methods of diagnosis from 1876-1893.
5. A period in which the development of the surgical technique has been wrought out in the hands of a few specialists, 1890-1900.
6. The final period, the gradual transportation of the perfected operation into the hands of surgeons at large, may I say from this present date on, 1905?

ETIOLOGY AND PATHOLOGY.

The nexus between etiology, diagnosis, and treatment is so close woven that I must touch upon causation if but briefly, in order to give my little sketch—taken as it were from a surgeon's diary—its due perspective.

In the first place, how does the disease reach so recondite an organ? Manifestly there are but three avenues of access:

- By the blood;
- By ascending the ureter;
- By direct extension from some contiguous organ.

Baumgarten of Tübingen (1901), after some careful experimental inoculations of the urethra in rabbits in which he succeeded in causing a tuberculous ulceration of the bladder and the prostatic urethra, found himself utterly unable to provoke any like affection of the vasa or of the testicles on the one hand, or the upper urinary tracts on the other. He therefore insisted that the tubercle bacilli, being no *Secretionsparasiten*, never advance against the current of secretion, but always with it.

This dictum, generally speaking, is true, although there are good clinical reasons for believing that in man the disease frequently extends from the epididymis to the bladder where it may involve and cause a stricture of one or both ureteral orifices; this in turn causes a slight hydro-ureter, and then follows the invasion of the upper urinary tract. A case of Albarran's and one of my own, both with a double kidney, seem almost conclusive in this respect.

An ascending disease in women is most rare, except when the disease has first affected one side, and then when this is in an advanced state of tuberculosis, proceeds to invade the bladder and the opposite ureteral orifice in the manner depicted. I would call attention to the fact that I have never seen a primary ascending tuberculosis in upwards of fifty surgical cases, for the most part in women. I have seen several cases of vesical tuberculosis, primary or associated with a genital tuberculosis, but the kidneys were not involved.

I have also seen coincident renal and genital tuberculosis, but without other manifest liaison than the vascular system or some remote common dépôt of infection. I would therefore urge that what is commonly called urogenital tuberculosis does not exist in women.

Without any doubt the infection of the kidney is almost always hematogenous. It is important to note that the focus by which the blood becomes infected is often found in the thorax. Kelyneck (1897), in a series of autopsies studied with especial reference to tuberculosis of the kidney, found the lungs affected in 70 per cent. of the cases. The primary focus, as has been shown by autopsy, is sometimes a cheesy bronchial gland, apparently dormant but for this accident.

Let me urge with these facts before us that it is most important in every case to investigate most minutely the condition of the lungs. A study of this kind will sometimes serve to check a too sanguine prognosis.

* Read before the British Gynaecological Society on June 8th, 1905.