

An Address

ON

ACUTE ABDOMINAL SYMPTOMS.

Delivered before the Walthamstow Division of the Metropolitan Counties Branch of the British Medical Association.

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PERHAPS there is no more difficult and responsible position that a medical practitioner can be placed in than to be confronted with a case presenting the characteristics of what we may call an "acute abdominal illness"; by that term I mean an illness with an acute onset of which the most prominent symptoms are severe abdominal pain, vomiting, and more or less collapse. In such cases the medical man must come as quickly as possible to some conclusion, firstly, as to what is the matter with the patient, and secondly, as to the advisability of immediate operative interference. In a large number of cases it is not possible to make an exact diagnosis at the early stage of the disease, but, nevertheless, the necessity of surgical intervention may be quite evident. It is, however, very advisable to come as near to an accurate diagnosis, especially as to the position of the lesion, as possible, because we can thereby form a general idea as to the sort of operative interference which is advisable, and thus may save much time and shock. At the present time there is a great tendency to trust to the results of an exploratory laparotomy for the diagnosis of abdominal affections rather than to a laborious and careful weighing of the evidence. This is in many ways a great pity, and in these acute cases it is especially important to have some idea of the part affected, for the patients are not in a condition to stand a prolonged exploration of the abdomen and one or more extensive incisions. In any case the decision as to surgical interference is exceedingly important and must be come to at once or within a few hours. In many cases if surgical treatment is too long delayed the favourable period is lost and the dangers of the patient are greatly increased, while unnecessary surgical intervention, on the other hand, may have disastrous results.

Let us suppose that one is sent for to a patient who has been suddenly taken ill with severe pain in the abdomen, vomiting, faintness, etc. On the road one passes in review a great variety of complaints which may produce these symptoms. I may enumerate some of the chief. The trouble may have to do with the urinary tract, such as calculus in kidney or ureter, displacements of a movable kidney, intermittent hydronephrosis, etc. It may be gall stones or pancreatic calculi; it may be twists of organs, such as ovary, ovarian tumours, retained testicle, etc. It may be connected with the intestine, for example, colic, hernia (external or internal), strangulation by bands, intussusception, obstruction by foreign bodies or tumours, etc. It may be rupture of various organs, for example, stomach, intestine, appendix, gall bladder, tubes (extrauterine pregnancy), etc.; or of ovarian, hydatid, or pancreatic cysts. It may be irritant poisoning. Or it may be some inflammatory condition, for example, appendicitis, or inflammation of other appendages, as Meckel's, the appendices epiploicæ, the uterine appendages, etc.; peritonitis from these and other causes, such as pneumococcal or tuberculous peritonitis; acute pancreatitis, gastritis, enteritis, colitis, abscess in the abdomen, liver, etc., pyelophlebitis, perirenal abscess, etc. There are various other conditions which have to be taken into account as well, but they are quite rare; thus the trouble may not be in the abdomen at all but in the thorax, for example, pneumonia or pleurisy may sometimes begin with vomiting, epigastric pain, and tenderness, and symptoms resembling subphrenic abscess.

I cannot, of course, go into the differential diagnosis of all these cases to-day, but it may be useful if we consider the significance of the chief symptoms and try to separate the cases into groups and then consider the indications for immediate operation. I am taking the most difficult part of the subject from the point of view of diagnosis because I want to see what are the indications for operation when the patient is first seen, or, at any rate, within the first 12 to 24 hours after the onset of the case. As time goes on the diagnosis becomes easier, but there are many cases where one cannot afford to wait. Even if it is decided not to operate at once, the ques-

tion of operation must not, however, be dismissed, but must still remain the most prominent one for consideration.

PAIN.

The character and situation of the pain are of considerable assistance. In perforations of the stomach, intestine, gall bladder, etc., the pain is usually extremely severe, constant, and of a burning character, and in the first instance usually limited to the seat of rupture, though it soon spreads over the abdomen. In rupture of cysts the pain is more diffuse from the first and not so severe, but there also it is most marked at the seat of rupture. In rupture of the appendix the severity of the pain varies much, but it may be severe and located in the appendix region; usually, however, it is from an early period associated with or may be preceded by colicky pains in the neighbourhood of the umbilicus. Other forms of appendicitis usually commence with colicky pains at or above the umbilicus, and pain develops later in the appendix region. In internal strangulations and other obstructive conditions there may be pain at the site of the lesion, but the chief complaint of the patient is recurring attacks of severe colicky pain referred to the umbilical region. Gall-stone pain is epigastric, passing through to the back and shoulder, and much less spasmodic. Renal or ureteral pain is of the same character, shooting down to the scrotum and thigh. The chief points to be noted as regards the pain are its severity and position, whether it is constant or spasmodic or both, whether localized or diffused, and whether the spasmodic pain is intestinal or not.

TENDERNESS.

This may vary according to pressure or percussion. It is marked from the first in cases of inflammation and rupture, and is generally greater on percussion than on pressure. The reverse is the case in strangulation. At first the whole abdomen may seem tender, but the seat of the disease is generally indicated by an area of marked tenderness, although this is not always so. As time goes on, unless general peritonitis sets in, the tenderness diminishes, except over the seat of the disease, where it increases. On the other hand, in the passage of biliary or renal calculi the pain may be apparently eased by pressure, and this is sometimes also the case in the early stage of strangulation before peritonitis or enteritis has set in. The points are its presence or absence, whether limited or not, its seat, its relation to pressure and percussion and its tendency to spread or to remain localized.

ABDOMINAL RIGIDITY.

Rigidity of the abdomen is a very marked symptom in peritonism. It is most marked over the seat of the disease and may be limited to that, but in the early stage it is general over the abdomen. If as time goes on the abdomen remains rigid all over, it means either rupture of some viscus or general peritonitis, or, in the early stage, strangulation; in localized inflammations it, like the tenderness, relaxes except over the area of the disease, and in bad cases of peritonitis it disappears and gives place to distension of the abdomen. The points are its presence, its situation, whether localized or diffuse, and whether in the former case it tends to spread or not.

VOMITING.

Vomiting occurs early in quite a number of these abdominal cases, and, as a sign when the patient is first seen, it is not of any very great diagnostic value. It occurs early in rupture of the stomach, and is also one of the early symptoms in various other ruptures, in appendicitis, in strangulations, etc. It is the persistence of the vomiting which is of the greatest importance. This points strongly to some mechanical obstruction, for in most other cases it is usually only an early and reflex effect which passes off very soon. The character of the vomited materials may also be a guide, for example, feculent vomiting usually means obstruction; blood indicates ulcer of the stomach, etc.

COLLAPSE.

Collapse is very indicative of a rupture or of an internal strangulation or hæmorrhage and may be very marked in these cases. Its degree depends to a great extent on the severity of the case, more especially on the suddenness and amount of the extravasation. A slight leak, gradually increasing, as in an old ulcer of the stomach, will not have the same effect as a sudden and free discharge into a previously healthy peritoneal cavity, and, in the same way, in internal strangulations, the amount of collapse depends on the suddenness of the strangulation and the tightness of the cord. On the other hand, in inflammatory affections, collapse is absent or not

at all marked. If it is present with other symptoms pointing to appendicitis, for example, it indicates a very grave condition, probably either perforation or gangrene. The presence of collapse is a strong indication for operative interference, although it may be considered advisable to wait for two or three hours to let the collapse pass off to some extent. The points are its presence or absence, its degree, whether reaction sets in or not, whether when slight or absent at first it gradually increases.

RIGOR.

The occurrence of a rigor or chilliness at the commencement generally indicates some inflammatory condition and not infrequently ushers in an attack of appendicitis for example.

PULSE.

Increase in the pulse rate is very common in all these conditions, and may set in almost at once in ruptures and other grave conditions. In inflammatory conditions it usually rises more slowly, and early rapidity of the pulse is a very bad sign in these cases. In any case a rate of 120 or over indicates a very serious state of matters and is in favour of surgical intervention. The character of the pulse is also of great importance, whether full or small, regular or irregular, running, etc.; a small, running and irregular pulse is as a rule a very bad sign and in favour of immediate operation.

TEMPERATURE.

Elevation of temperature at the early stage separates inflammations from strangulations, herniae, twists, etc., but even in inflammations the temperature at an early stage may not yet have risen when the patient is first seen, and in perforations it may be subnormal. If, therefore, in a case beginning with the usual symptoms of peritonism and seen early the temperature is found to be raised, we have in all probability to do with some inflammatory condition, for example, peritonitis from various causes, appendicitis, cholecystitis, salpingitis, etc.; or if the temperature rises soon after being depressed at first, with some perforation. The temperature is not elevated in internal strangulation unless gangrene and peritonitis set in. The question of the temperature, however, is to some extent of secondary importance and must be weighed with the other symptoms. It may be elevated in other conditions, for example, I have seen temperature with renal calculi, and in patients who have had malaria it may also rise unduly.

GAS.

Presence of free gas in the abdomen may be indicated by obliteration of the liver dullness, while the abdomen is still retracted and rigid, or at any rate not distended, and is always a sign of rupture of the alimentary canal. This should also be borne in mind in operating, and if gas escapes on opening the peritoneum attention must always be directed to the intestinal tract and a rupture searched for.

GENERAL CONDITION OF THE PATIENT.

The general aspect of the patient is usually a good indication of the gravity of the condition. In cases of internal strangulation, rupture of the stomach, etc., the patient is pale, with drawn countenance and typical abdominal face, knees usually drawn up and in dorsal decubitus. In appendicitis with perforation the patient is quieter, not so bad in the early stage but getting worse later; in gangrenous appendicitis he is had from an early stage and steadily becomes worse. In gall stones, renal calculi, etc., the patient is restless, doubled up, presses on his abdomen, and has not the typical greyish abdominal face.

PREVIOUS HISTORY.

Some assistance may also be got from the previous history. For example, there may be a history of indigestion, pain in the epigastric region after food, haematemesis, etc., indicating old ulcer of the stomach, or of previous attacks of appendicitis or of renal or biliary calculi, and so on, and if such history is obtained it may be of great assistance, but the absence of it does not preclude these affections, for we may have to do with a first attack. Again we may get a history of peritonitis which, with symptoms pointing to internal strangulation, may strengthen the diagnosis, or a history of early pregnancy, etc. Also the history of events preceding the attack is of importance, as diarrhoea, or constipation, or violent exertion, a large meal, etc. Malaise preceding the attack indicates something brewing rather than a sudden seizure such as strangulation.

AFTER HISTORY.

These are the chief symptoms which may be observed at first if the practitioner is called at quite an early period of the attack, but as the hours run on these symptoms alter and other symptoms appear which may aid the diagnosis and determine the question of surgical interference. For example, the spreading of the pain and tenderness over the abdomen indicates a grave lesion and a development of general peritonitis, while the localization of the pain to one spot or region indicates a shutting off of the inflammatory action and a much more favourable condition.

Persistence of colicky pains is another important indication; if they persist, the probability of strangulation is increased, while in appendicitis, for example, though colic may be most marked at the beginning, it soon subsides and pain and tenderness become located in the appendix region.

Continuance or subsidence of the vomiting are also of importance. Persistence of the vomiting usually indicates intestinal obstruction and there it tends to become faeculent. In rupture, appendicitis, etc., while vomiting is one of the earliest symptoms as a rule and may continue in some cases off and on for a few hours, it ceases after a time. The recurrence of vomiting, especially of dark fluid, generally indicates a grave septic condition, as in the later stages of acute peritonitis.

Persistence or deepening of the collapse indicates an extremely grave rupture or some haemorrhagic condition, such as ruptured tubal fetation or haemorrhagic pancreatitis. As a rule in other cases the initial collapse is followed by marked reaction.

Information may also be obtained from the continuance or location of abdominal rigidity. Continuance or increase of general rigidity implies a diffuse process, usually general peritonitis, while in other cases relaxation occurs over the greater part of the abdomen, and rigidity only remains over the seat of the trouble, indicating more or less localization and usually an inflammatory condition.

Elevation of temperature, whether at first or setting in within the first few hours after the seizure, is strongly indicative of an inflammatory condition, such as appendicitis, cholecystitis, etc., while continuance of a normal temperature points more to some mechanical condition. Fall of temperature after previous elevation is usually a very bad sign if other symptoms continue, and indicates profound toxæmia.

Increasing rapidity and weakness of the pulse and a tendency to running are symptoms of gravity, and, occurring during the first day, generally indicates some grave septic lesion, such as ruptures or gangrenous processes. As time goes on other characteristics also become evident.

DISTENSION OF THE ABDOMEN.

In most of these serious abdominal cases the abdomen becomes more or less distended, but when it occurs early it usually indicates either a general peritonitis and paralytic distension of the bowel with gas or else intestinal obstruction. According as we gather from the other signs that we have to do with an inflammatory or a mechanical process, this is a sign of greater or less gravity. In cases of obstruction the greater distension of one part of the abdomen than another and the consequent differences in the abdominal contour may be of considerable diagnostic value as to the site of the obstruction.

The state of the bowels is not a great aid in the diagnosis. In mechanical obstruction there is of course complete cessation of passage of faeces and gas, but if the bowel below the obstruction is loaded at the time there may be one or two actions at the early stage, either alone or after enemata, and one must not therefore be misled by this. Inflammatory conditions, such as appendicitis, although at the commencement there may be diarrhoea, are also usually accompanied by complete arrest of passage of faeces and gas, but there it is often possible with a long tube or enemata to get away at any rate some gas. It is a very common mistake to look on the constipation of appendicitis as an obstruction and make matters a great deal worse by violent purgations or irritating and distending enemata.

The character of the tongue is also some indication. In bad septic conditions, as gangrenous appendicitis, general peritonitis, etc., the tongue tends to become brown and dry, while till near the end in obstruction the tongue remains white and moist.

So much for a general consideration of the symptoms present. After some experience in these cases it soon becomes evident that they overlap very much and that there are so

many exceptional and bizarre conditions that an absolute diagnosis is often impossible, especially at the early stage, when, from the point of view of surgical treatment, it is most important. It is, however, very often possible to separate them into groups and thus to arrive at a probable diagnosis, and this we may now try to do.

Perhaps the most easily excluded are the renal group. Renal and ureteral colic are very typical. The excruciating paroxysms of pain, not limited to the back but shooting down into the thigh and testicle, frequency of micturition, scanty micturition, blood in the urine, and the absence of intestinal colic and of abdominal rigidity, are sufficiently characteristic. But even with renal colic the symptoms may not be nearly so acute or typical, and the difficulty of distinguishing between chronic appendicitis and renal or ureteral calculi is sometimes very great and mistakes in diagnosis have been repeatedly made. We need not, however, go into this subject here, because the difficulty chiefly concerns chronic cases, while we are only dealing with cases of the most acute type. Even there I have seen the greatest difficulty in deciding, owing to the development at an early period in an attack of appendicitis of pus and blood in the urine. The condition of intermittent hydronephrosis is also sometimes confusing. Here the urine becomes temporarily dammed back and the pelvis of the kidney swells up rapidly; the patient is usually seized with severe pain and vomiting, but the pain is definitely located in the loin and side, colicky pains are absent, there is tenderness and a distinct swelling can be made out much larger and better defined and developing at a much earlier period than in appendicitis, for example, or even cholecystitis, and there is no elevation of temperature. Other acute renal conditions, such as perirenal abscess, may also cause some difficulty, but are generally fairly easily separated by the position of the pain and the absence of signs pointing to other possible conditions. Abscess forming after duodenal rupture is probably the most difficult condition to separate from perirenal abscess, but at a later stage than we are speaking of.

Gall-stone colic is also pretty definite, the violent epigastric pain shooting through to the back and shoulders, doubling the patient up and relieved by pressure, absence of temperature, etc., being generally very characteristic. It is in the less acute cases, which do not concern us now, that the difficulty arises.

RELATIVE FREQUENCY.

Coming now to the more definite abdominal cases, it is of interest to recall the relative frequency of the chief conditions, though one must be very careful not to be influenced by that, as the case under consideration may quite likely belong to one of the rarer types. It is more as a guide to the order of investigating the cases that the relative frequency is of value. Various estimates are given of the frequency of the different causes of acute abdominal symptoms, chiefly collected from admissions to hospitals, but of course the sources of error are so numerous that they possess no sort of scientific accuracy. It is pretty clear, however, that by far the most common causes are various forms of acute intestinal obstruction, such as internal hernia, strangulation by bands, volvulus, intussusception, etc., appendicitis and its complications, and perforations of the alimentary tract. Thus Battle and Corner have put together the total number of these acute abdominal cases admitted to St. Thomas's Hospital during a period of three years, with the following result:

	Per cent.
Appendicitis and its complications ...	37
Intestinal obstruction	24
Intussusception	15
Perforations of the alimentary tract ...	11
Pelvic and gynaecological cases ...	6
Abdominal abscesses, other than appendix	3
Remainder	4

} 39 per cent.

Hence it is evident that in approaching a case we should begin by considering these three conditions.

Time fails me to run over the symptoms of these various conditions, but perhaps the best way of approaching the matter is to try to determine in the first instance whether we have to do with an inflammatory or a non-inflammatory condition. The initial rigor, a rising temperature, marked tenderness, especially on percussion, and the other cardinal symptoms of inflammation will often be sufficiently distinctive, and then, in addition, the disappearance of the initial colicky pains and the steady pain in one part, perhaps only marked on movement or taking a deep breath, and the subsidence of the vomiting contrast markedly with the condition in intestinal

obstruction. The situation of the pain and possibly the previous history may to some extent help in deciding the seat of the trouble. For example, previous history of gall stones, jaundice, etc., with pain over the gall bladder, and perhaps some swelling will indicate with considerable probability a cholecystitis, and pain in the right iliac fossa with rigidity and a history of previous attacks will be strongly in favour of appendicitis. With regard to the latter, however, much depends on the position of the appendix and the pain may be higher up or towards the lumbar region or near the umbilicus or in the pelvis or even referred to the left side. Rectal and vaginal examination may also throw light on the case in the way of tenderness or fullness in the pelvis, swelling of the tubes, etc.

If, as the hours pass, no temperature or other signs of inflammation develop, one must turn one's attention more especially to causes of obstruction, and this will be the more probable if vomiting persists, if severe colicky pains continue, etc. The kind of obstruction may also to a certain extent be indicated by other symptoms: for example, strangulation by a band by the severity of the collapse in the first instance; intussusception by the normal signs, lump, passage of blood-stained mucus, etc.; tumour, probably by previous history of constipation, absence of collapse, and less acute onset, etc. Among other conditions which are non-inflammatory in the first instance, we have, for example, twists, as of ovarian pedicle, retained testicle, etc. These are often most difficult to diagnose, but usually the symptoms do not present the same immediate urgency as where the intestinal canal is the seat of the trouble. Haemorrhages, as in ruptured tubal fetation, haemorrhagic pancreatitis, etc., lead to signs of loss of blood, but in the first instance the diagnosis may be difficult.

The third great group of cases, namely, perforation of the alimentary tract, rupture of cysts, etc., are intermediate between the above as regards inflammatory symptoms. They are not usually preceded by signs of inflammation, and some hours may elapse before inflammatory symptoms appear. Their chief characteristics are sudden intense local pain and collapse followed presently by signs of reaction and peritonitis. The gravity of the symptoms depends on the septic and toxic nature of the materials extravasated. Perforations of the stomach or duodenum may be indicated by the suddenness and intensity of the pain, which is fixed and steady rather than colicky, although the latter may also occur, of a burning character and tending to spread over the abdomen; by the profundity of the collapse followed by reaction, distension, elevation of temperature and signs of peritonitis. Obliteration of the liver dullness with retraction of the abdomen due to free gas in the peritoneal cavity is a very important sign. On the other hand, ruptures of cysts of various kinds are not usually followed by such acute symptoms especially in the shape of collapse and depression of vitality, the pain is not so severe and is more diffuse and the gravity of the case is not usually so great and there may be previous knowledge of a lump.

In these cases reaction follows the collapse, but in perforation of the appendix the collapse is not usually a marked feature at the very first, but gradually deepens instead of improving, the pulse quickens and becomes thready, the abdomen becomes distended, etc. Apart from the mild cases of appendicitis, which do not as a rule present the same urgent symptoms as I am referring to, we have the great group of fulminating appendicitis, due either to perforation or to gangrene of the appendix or to both, and also the group of severe acute appendicitis without perforation in the early stage. Fulminating appendicitis is generally characterized by the acuteness of the pain in the first instance which generally remains acute and localized in the appendix region for some time; in addition there are colicky pains at first which presently subside; there is rigidity and tenderness most marked over the appendix region; there may be a rigor, vomiting and considerable collapse, or rather depression of vitality, which tends to increase; in the first instance the temperature may also be depressed. As the hours pass on the general condition of the patient rapidly gets worse, the pulse quickens and becomes thready, the temperature rises, the abdomen becomes distended, etc. At the same time I have operated on cases where practically the only symptom was the intense pain and tenderness without marked depression and where a gangrenous appendix was found. In cases of severe acute appendicitis without perforation the temperature rises rapidly from the first and there is generally absence of collapse. The early pain is chiefly colicky and situated

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.

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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."