CHAPTER XX

A FEW REMARKS ON THE DIAGNOSIS OF ABDOMINAL TUMOURS—ABSCESSES OF THE ABDOMINAL REGION

WHAT help will the topographical situation of an abdominal mass give us, if all other factors are left out of account? The tumour may be preperitoneal, intraperitoneal, or retroperitoneal.

In general, the following remarks will hold good. A retroperitoneal mass is not movable. An intraperitoneal growth is movable, and its motion is influenced by respiration in a manner similar to that of the intraperitoneal organs. A preperitoneal tumour is movable, but does not move up and down with respiration like the diaphragm, liver, spleen, etc., but its arc is forward and backward like that of the abdominal wall.

Any one familiar with abdominal palpation is well aware that it may frequently be difficult to decide in what direction a mass is moving. Other means of arriving at a conclusion must, therefore, be applied.

If a tumour is preperitoneal, it must lie in the subserous layer, in front of the transversalis fascia, between or in front of the muscles. In any of these situations, however, the relation of the tumour to that part of the abdominal wall to which it is attached must remain the same, no matter what position is assumed by the patient. If the abdominal wall is so lax that

the tumour moves with change of position, the abdominal muscles must be made tense in order to prevent shifting. If this manœuvre enables us to determine that the tumour is movable, it is undoubtedly intraperitoneal. Such a change of position (when the abdominal muscles are held tense) can not be detected by palpation, because the contracted muscles obscure the outline to the palpating fingers; but percussion enables us to note change of position. For instance, a long-pedicled cyst of the left ovary may gravitate toward the right. If the patient is placed upon her right side and ordered to contract her abdominal muscles, it is then found that the dulness has shifted from left to right.

A tumour situated behind the layer of muscles disappears, or is at least flattened, when these muscles are contracted; and, furthermore, the tensely contracted muscle layer can be felt passing over the mass. A tumour placed in front of the muscles is pushed forward and grows more distinct under these conditions. If the tumour is freely movable when the abdominal wall is rigid, its attachment is anterior to the fascial coverings of the muscles—or, in other words, subcutaneous.

So far the discussion has dealt purely with diagnosis in the abstract. In practice, other factors must be considered from the very outset of the examination.

In the first place, the situation and outline of the tumour may be such as to permit of only *one* interpretation. A tumour of the left hypochondrium, which juts out from beneath the ribs, with its greatest convexity posteriorly, allowing a notched edge to be felt, will at once impress us as an enlarged spleen.

Secondly, the size and most striking physical charac-

teristics will govern our reasoning. A pyloric carcinoma will never reach the size of a head; a bony, hard tumour of the uterus will prove a calcified myoma.

Thirdly, especially when dealing with a smaller tumour, its relation to certain organs may be so apparent that the possibilities to be considered are at once narrowed to certain limits. If we find a small, hard mass in the region of the pylorus, accompanied by dilatation of the stomach, we at once suspect a pyloric cancer.

The functional disturbances which accompany various tumours and occupy the foreground of the picture must also be considered—vomiting in pyloric carcinoma, intestinal obstruction in cancer of the gut, the metrorrhagia and menorrhagia met with in fibroids of the uterus.

In addition, lesions situated at a distance must be taken into account; for instance, a kyphosis of the lumbar spine in a patient with a fluctuating tumour of the lower part of the abdomen. We must at once decide whether we are dealing with a cold abscess which took its origin from the diseased vertebræ.

Finally, the history may show whether the mass is inflammatory or neoplastic. A tumour which appears during the puerperium, accompanied by fever and pain, will at once impress us as an abscess originating from the genitals or their vicinity. A tumour which develops slowly during the course of years, without known cause, unaccompanied by fever or pain, will prove to be a neoplasm.

To sum up, the differential diagnosis will usually narrow down to two or three possibilities.

Abdominal ABSCESSES will be considered first.

In addition to the previously mentioned topographical signs which determine in what layer the abscess is situated, certain typical modes of extension will go far toward proving the origin and nature of such a swelling. After Henke had enriched our knowledge of the exact anatomy of the cellular planes, other surgeons—König, Soltmann, Schlesinger—for experimental purposes, injected substances into the tissue planes at sites where certain typical abscess formations were most common. The results of these experiments corresponded quite closely with the clinical picture obtained in the sick-room, so that we may state that certain abscesses spread in directions which may usually be anticipated.

Further assistance is furnished by the initial symptoms, the course, and the relations to neighbouring organs.

For example, let us consider a patient who complains of fever, constipation, and vomiting, followed by the sudden appearance of a tumour of the *right* iliac fossa which is exquisitely tender to pressure. Inspection shows little or no bulging of the affected region; the skin is entirely normal. Percussion demonstrates tympany over the mass; more careful palpation shows the mass to be immovable and fixed. We may then conclude that the tumour is retroperitoneal, for the cæcum is placed anterior to it. When dealing with other retroperitoneal tumours, it is found that the intestine is pushed aside, and the tumour projects forward to the abdominal wall. The cæcum, however, can not be forced to the side, and consequently a tympanitic note is heard. Other symptoms may aid us. The patient may feel pain radiating downward to the thigh, and the thigh may assume a position of slight flexion. Or,

if pressure upon the iliac vein causes œdema of the leg, it is another confirmatory sign of the retroperitoneal seat of the affection. This variety of inflammation was called PARATYPHLITIS by Oppolzer. The abscess may burrow upward to the kidney, downward to Poupart's, or even beneath the ligament, by following along the blood-vessels.

Very similar symptoms may be due to a circumscribed peritonitis confined to the neighbourhood of the cæcum, except that its onset is stormier and more violent. Oppolzer designates it PERITYPHLITIS. He emphasizes the fact that the percussion note is *not* tympanitic, and that the tumour may be pushed downward slightly, for it rests upon the anterior surface of the cæcum, supported as if upon an elastic cushion.

When the mass can be palpated, as described above, it is evident that the diagnosis between perityphlitis and paratyphlitis is possible. As a rule, the excessive tenderness of the whole region will prevent such extensive palpation, and the course alone will show whether we are dealing with a circumscribed abscess of the retroperitoneal tissues (retrocolic) or with a circumscribed peritonitis developing eventually into a general perforative peritonitis.

Since, in the last few years, surgeons have operated more and more frequently in these two varieties of inflammations, they have assumed a constantly growing importance. As their special pathology has been more carefully studied, it has been proven that both paratyphlitis and perityphlitis are nothing more than the two chief outcomes of inflammation and ulceration of the vermiform appendix. A generic name was sought for—Nothnagel proposed *Skolikœiditis*; Eiselt, the appellation *Epidesmitis*; in America, the name *Appendicitis* is uniformly employed.

Let us discuss another case. During the puerperium the patient has a chill (this may be wanting); the temperature rises, and spontaneous abdominal pain also appears; in addition, the lower part of the abdomen grows so acutely tender that a bimanual examination can not be made. Meteorism and vomiting occur in the further course of the trouble. Here no doubt can be entertained: it is evidently a case of perimetritis or PARAMETRITIS. If the patient does not die, we can decide later whether the abscess which forms is intraperitoneal or extraperitoneal. If the tumour, by vaginal examination, proves to be situated to the side of the uterus, but closely connected with it, or separated only by a shallow groove, it is, as a rule, extraperitoneal; likewise if the mass extends into the iliac fossa. In many other cases the question can not be satisfactorily answered.

In a great number of cases we discover an abscess of whose existence both patient and relatives are entirely ignorant. This, of course, applies to the slowly developing gravitation abscesses seen in Pott's disease of the spine. The children are brought to the clinic by their parents to be examined for weakness of the lower extremities or for a developing gibbus. These cases are of daily occurrence, and the iliac fossæ are examined quite as a matter of course, to see whether a PSOAS ABSCESS has developed. If the caries of the spinal column has been recognised, the psoas abscess can be diagnosed by the following points: 1, considerable flexion of the thigh upon the pelvis; 2, free mobility of the hip-joint except to motions which extend the thigh upon

the pelvis; 3, an increased sense of resistance to deep palpation above Poupart's ligament with an elongated tumour along the psoas muscle. In some cases the symptoms are even more striking. We then find dulness to percussion and fluctuation above Poupart's, œdema of the skin beneath the ligament, and not infrequently a fluctuating swelling, from which fluctuation can be transmitted to the abdominal mass. Psoas abscesses may point laterally along the crest of the ilium; this is much less common. Rarely they burrow in the subserous tissues, or gravitate downward to the glutei and other muscles of the buttock. In all these forms the psoas contracture is the one symptom to be relied upon.

Of special interest are the SUBSEROUS ABSCESSES of the iliac fossa. They lie between the peritoneum and the iliac fascia, and develop either stormily, or quietly without pain or febrile symptoms. As a rule, these abscesses are due to tuberculosis of the spine. They vary largely in outline and size, both these factors depending on the site of the abscess. In some cases they appear along the anterior abdominal wall, others develop along the posterior wall, and still others along the true pelvis, so that they may be palpated per vaginam or rectum. The subserous location of the abscess may be recognised as follows: the deeper location is excluded by absence of psoas contracture and by the more plainly marked bulging of the mass. Intraperitoneal abscesses cause peritoneal symptoms during their development, and are not so entirely fixed as to resist palpation or the respiratory movements of the viscera. The subserous location of the abscess can be positively demonstrated when it develops along the anterior abdominal wall. The parietal peritoneum is

then slowly pushed upward by the growing abscess; with it the respiratory line—i. e., the line which marks the limit of the respiratory movement of the abdominal wall—is displaced upward. Below this line we find dulness and fluctuation. Here the abscess may be boldly opened. On account of the danger of secondary hemorrhage, it is usually preferable to invade the deeper-lying parts from the outset.

In some cases psoas abscess may occur without accompanying psoas contracture. Its elongated form will serve to distinguish it from subserous abscesses.

Of great importance are the so-called SUBPHRENIC ABSCESSES (Leyden), especially since Maydl has given a careful exposition of their course. These abscesses may be due to various causes; Maydl describes no less than twelve groups. They arise most commonly from the alimentary tract, from the appendix, or from the kidneys. The diagnosis must, therefore, be based upon some antecedent primary abdominal trouble (or injury), which is followed by the symptoms of a deep-seated purulent focus (continuous fever, collateral œdema on the affected side, elastic resistance of a deep swelling). In the second place, symptoms referable to an involvement of the diaphragm should be looked for (hiccough, pains radiating to the shoulder). Physical examination shows dulness or flatness of the lower part of the thorax on the affected side. The line of flatness rises and falls with respiration—in pleural effusions the line is fixed.

The experience of the last few years has shown that an abdominal abscess, which runs an atypical course, must cause us to think of ACTINOMYCOSIS, for this disease appears in various ways. For instance, an actino-

mycotic focus in the anterior abdominal wall between umbilicus and pubes. Spontaneous appearance, chronic course, marked induration, with stony, hard periphery, a central fluctuating area—these are the symptoms of a typical case. The induration, which resembles that of a phlegmonous process, is not in keeping with the painless fluctuation. The central painless fluctuating area reminds us of a cold abscess, but the infiltration of the edges does not harmonize with this diagnosis. In other words, a *combination of the symptoms of acute and chronic inflammation.* In those cases in which the process involves the posterior abdominal wall, multiple deep-seated foci are present. We here find many fair-sized masses, hard, with occasional softened areas, but tuberculous signs are absent in other parts of the body, and no peritonitic history can be obtained. Chronic abscesses of the navel should be regarded with suspicion; they frequently prove to be of actinomycotic origin.

CHAPTER XXI

A FEW SURGICALLY IMPORTANT ABDOMINAL TUMOURS

A WOMAN presents herself for examination on account of a large abdominal tumour. The tumour is of such size that the patient resembles a woman in the last months of pregnancy. The exposed abdomen is seen to be uniformly rounded, the navel not protruding, and the abdominal walls in no way abnormal. Inspection shows that we are not dealing with ascites, for in ascites the abdomen is not round—it is broadened; the fluid gravitates into the flanks when the patient lies down, and the intestines are floated upon the surface. This causes the flanks to broaden and the umbilicus to protrude.

The enlargement of the abdomen might be due to distention of the intestine by gas—intestinal meteorism. In this condition, if the abdominal wall is lax and the subcutaneous layer thin, intestinal coils may be distinguished. If, on the other hand, the walls are tense and the fatty layer well developed, the abdomen has a full, rounded appearance. Percussion will help us out, for if the note is tympanitic over the entire abdomen the distention is due to meteorism, whereas if the note is flat over a considerable area of the abdomen we are dealing with a tumour.