

## CHAPTER XXII

### HERNIA

THE conception of hernia demands (1) a hernial contents, (2) a hernial sac, (3) a hernial orifice; these three requisites should, therefore, be demonstrated to make a diagnosis theoretically complete. In simple cases all three may be readily recognised. Assuming that a tumour is tympanitic, increases in size under the influence of intra-abdominal pressure (coughing, straining, etc.), and is reducible, we are warranted in diagnosing that the mass contains not only a viscus, but a definite viscus—the intestine. After reduction, a flabby sac is left behind, which glides smoothly to and fro under our fingers, and thus indicates the presence of two serous surfaces in contact. This is the hernial sac. Finally, on inverting the skin, we may pass our finger along the canal, until the tip reaches the abdominal cavity (coughing imparts the impulse of the intestine to the finger). The configuration of the hernial canal and hernial orifice can now be examined. In such a case no difficulty arises in the diagnosis of the condition. If we assume that the tumour is not reducible, it at once becomes impossible to demonstrate the hernial sac. If, in addition, the tumour is not tympanitic, as would be the case if the contents is omentum or ovary instead of intestine, we can no longer positively determine whether

the contents of the tumour is one of the many intra-abdominal viscera. The tumour may be so broad at its point of attachment that its base can not be reached; therefore definite proof of the existence of a hernial orifice is wanting. Although in many, and in fact in most, cases it is easy to demonstrate the existence of a hernia, instances do occur in which extensive examination is required. If, for example, the tumour under discussion can not be shown to be one of the abdominal viscera, another point of evidence must weigh heavily in the scale—such as its extension into a hernial orifice, and eventually into the abdominal cavity. Vice versa, if it can be shown that the tumour contains some abdominal viscus, this evidence is sufficient, even if the hernial opening or sac can not be found. It is clear that the last instance is more directly convincing. The method of recognising abdominal viscera in a hernia will, therefore, be detailed.

The ordinary hernia, either small or medium-sized inguinal, femoral, or umbilical, may contain intestine or omentum, or both. *Omentum* gives the impression of a mass composed of strands, with small nodules scattered along them. This is most plainly felt in umbilical herniæ. Reduction is gradually accomplished by replacing small portions at a time. The percussion note is dull. If a loop of gut has prolapsed into a hernia, the note is tympanitic over the whole or part of the tumour. The patient notices gurgling sounds in the hernia, and reduction occurs rapidly, accompanied by the same gurgling. In entero-epiplocele these symptoms are found combined, for the omentum either lies in front of the intestine, as it does within the abdominal cavity, or envelops the gut. An inguinal hernia,



or, less frequently, a femoral, may contain the *ovary*, the outline of the body felt then resembling the form of this organ. Extensive movements of the uterus are accompanied by movements of the hernial contents. In addition, it has been observed that the prolapsed ovary is tender to pressure, and in some cases enlarges and grows painful at the time of menstruation.

*Hernia of the bladder* may occur in one of two ways. Either the fundus prolapses into a true hernial sac, or a lateral, non-peritoneal portion of the bladder forces its way along the subserous layers. In either case, compression of the tumour causes strangury, the size of the tumour diminishes on urination, and a catheter introduced into the bladder may be guided into the hernial swelling.

More rarely the *stomach* enters into the formation of a hernia, always in company with the omentum and transverse colon. The diagnosis can be made if part of the tumour enlarges immediately after taking food, and then grows flat to percussion. Swallowing of liquids should be accompanied by gurgling sounds.

*Large evertations* may contain several abdominal organs. In fact, a whole human being, or even two, may be contained within the hernia. The uterus may lie in the hernia, become pregnant, and remain there during the whole period of gestation. No such cases have come under my direct observation. In other cases part of the liver, the stomach, etc., may form the contents. It is not difficult to reason out methods of recognising these various viscera, for the contained viscus is no longer found at its normal site. The area usually occupied by the suspected viscus must be examined by palpation, percussion, etc., and its absence demonstrated.

In discussing the more common varieties of hernia, it becomes necessary to consider with what other condi-

tions, inguinal, femoral, and umbilical herniæ may be confused.

INGUINAL HERNIA, from the point of view of diagnosis, may be divided into two chapters. Incomplete herniæ—i. e., such as are still within the inguinal canal, or in its immediate vicinity—may be confounded with a small group of tumours, namely, *tumours of the inguinal region*. In the male, tumours which have descended into the scrotum must be differentiated from the numerous and important group of *scrotal tumours*. As a matter of fact, complete scrotal herniæ bear a close resemblance to very few scrotal tumours. They will be discussed in the separate chapter devoted to this subject.

The following conditions are most apt to cause errors in diagnosis of inguinal tumours:

The tumour is composed of small nodules and strands, which give the impression of an epiplocele. It may be pressed inward and, to all appearances, reduced. Examination of the canal shows that a prolongation of the tumour projects into its opening. In this case everything depends upon the impressions produced by palpation. An experienced touch will decide whether the structure is omentum or not. For we may be dealing with a lipomatous tumour—either with the so-called adipoccele or with a lipoma simulating a hernia.

The points of difference between the two are as follows: A fat hernia (adipoccele) boasts of a hernial sac. If this is opened its cavity is found empty, but its posterior wall is crowded forward by a lumpy mass, which is contained in the properitoneal space and is immovable. A fatty tumour simulating a hernia is a lipoma, situated in the neighbourhood of the hernial opening.



Sometimes it grows about an empty sac, the fat extending back to the peritoneum.

I remember a case of very soft and finely nodulated inguinal lipoma which exceeded the size of two fists, extended into the scrotum, and covered the external inguinal ring. It gave the impression of an omental hernia, for it was composed of elongated lobules which I mistook for omental strands. One important point, however, caused me to leave the diagnosis in suspense, and to mention the possibility of a fat hernia. This was the presence of several small fatty masses immediately beneath the skin and not directly attached to the tumour.

The following is another condition met with: A small rounded mass is felt in the inguinal canal. It is moderately tense, and gives an impulse on coughing. This impulse, it must be mentioned, is not very clearly marked. If we neglect to examine the scrotum in such a case of cryptorchism, the testicle might be confounded with a hernia. It is therefore necessary to examine the scrotum in all cases of inguinal tumours. Careful examination of the suspected structure, after relaxing the abdominal wall, and the peculiar sensations experienced by the patient, prove that the tumour is the testicle, which is wanting in the scrotum. Curiously enough, it may happen that the cord descends into the scrotum, bends upon itself, and returns to the testicle, which is either in the inguinal region or abdominal cavity. The processus vaginalis peritonæi may reach into the scrotum and contain serum, so that a peculiar variety of hydrocele is formed, although the testicle is above the external ring. Finally, an undescended testicle may be complicated by a hernia. This condition grows especially interesting if the hernia becomes strangulated.

If the undescended testicle has undergone changes

in its size and shape through inflammatory processes or malignant degeneration, the resulting tumour may be very obscure. Professor Szymanowsky suffered from cancerous degeneration of a cryptorchid, and died of metastatic recurrences, although the primary growth had been removed by Pirogoff. If we bear in mind that undescended testicles are prone to malignant changes, and that, according to English, prolapsed ovaries frequently are diseased, it becomes a matter of course to suspect these conditions under the above circumstances. The diagnosis of these cases will, however, always remain very difficult.

At times malignant changes in an undescended testicle are accompanied by a serous effusion into the tunica, so that the degenerated testicle is surrounded by an hydrocele. As the effusion usually is moderate, the thickened testicle may be felt through the layer of fluid. As a rule, the corresponding lymph glands are involved. They must be palpated from in front through the anterior abdominal wall, as they are situated retroperitoneally in the vicinity of the kidney.

Another confusing case is the following: The tumour is hard, circumscribed, painful, irreducible, but movable; the testicle is in its normal site. This applies to small herniæ of the omentum if they become inflamed through pressure of a truss or as the result of other traumata. The *inflamed omentum* grows so hard, that unless the condition has been observed on some previous occasion, it is scarcely credible that omentum can acquire such a stony consistency. If the patient is kept quiet, the swelling subsides in the course of a few days, and the hernia can be reduced. The diagnosis can usually be made by aid of the marked mobility of the mass. A pedicle can be felt which moves with the tumour. Usually at some previous time intestine



formed part of the hernial contents, as the symptoms mentioned by the patient show.

The femoral region is also occupied by tumours, which require consideration when the diagnosis of FEMORAL HERNIA is studied. Other pathological conditions must be looked for in this neighbourhood. The lymph glands about the crural canal are numerous, tumours of the blood-vessels occur, abscesses point here; therefore the conditions which have at least one or more symptoms in common with herniæ are very numerous.

With what tumours can a femoral hernia be confounded? In the first place, with an inguinal hernia. If the inguinal hernia has descended into the scrotum or labium majus, the first glance suffices to enlighten

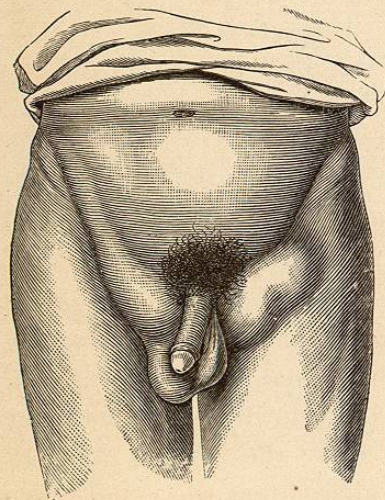


FIG. 29.—Right inguinal, left femoral hernia.

us. But if the hernia reaches no farther than just beyond the external ring, a beginner may well pause in doubt.

Astley Cooper stated that the position occupied by the hernia, in relation to the spine of the pubis, is conclusive. A hernia situated above and internal to the pubic spine is of the inguinal variety; the femoral hernia is below and external to the spine. Linhart, also,

praises this landmark, and claims that it never deceives. In easy cases, it is unnecessary to search for the spine;

inspection shows whether the swelling is below Poupart's (femoral hernia) or above the ligament (inguinal hernia). But difficult cases have been observed, in which inguinal herniæ have taken an abnormal course, extending into the femoral region instead of occupying the scrotum. Similarly, femoral herniæ have been

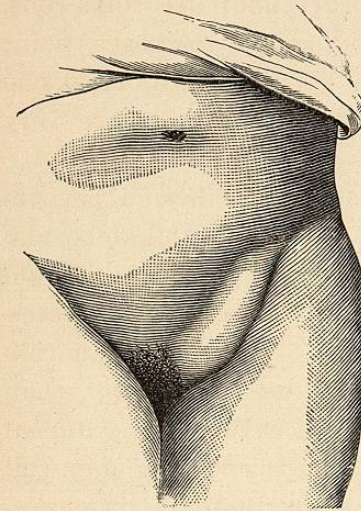


FIG. 30.—Inguinal hernia.

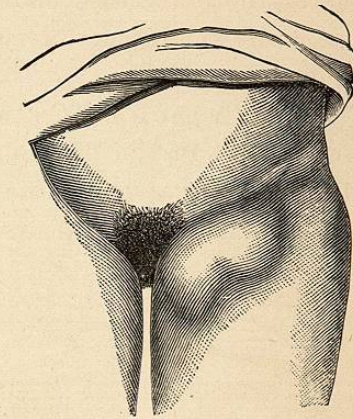


FIG. 31.—Femoral hernia.

known to reach upward and inward to the external ring or labium. In such cases, reduce the hernia and observe whether it reappears from the crural or inguinal ring. If irreducible, let the patient cough, and watch for bulging along the inguinal canal. If this symptom is not well marked, palpate the crural ring to the inner side of the femoral artery; grasp the tumour, and try to demonstrate a pedicle, which enters the canal. Try to crowd the tumour away from the opening. A similar examination of the inguinal ring should be made with one finger introduced into the ring. The discussion of such rare varieties of femoral hernia as the hernia of



Cloquet, of Langier, etc., which are impossible to diagnose in vivo, may as well be omitted.

The diagnosis of *obturator hernia* is also difficult. This hernia is separated from a femoral hernia by the pectineus. Pain radiating along the inner side of the thigh down to the knee, or even down to the great toe, should lead us to suspect this form. Obturator hernia is situated internal to the femoral opening.

Among the other swellings, of non-hernial origin, which occur in this region, the following deserve mention. We naturally assume that the tumour does not give a tympanitic note, and is of small size. *Varices* of the saphenous or femoral vein disappear upon the slightest pressure without a gurgling sound, but reappear at once. Their colour is bluish, and they occur in conjunction with varicose veins along the thigh and leg. A beginner is impressed by the fact that they enlarge during crying or coughing efforts. In order to demonstrate beyond a doubt that the swelling is a varix, it is only necessary to have the patient assume a prone position and to compress the region *above* the tumour. After prolonged, firm compression, the varix increases in size, if the artery is not compressed at the same time. To make the demonstration even more striking, continue the compression above the tumour, and slowly draw another finger, from below upward, along the vein, thus emptying its contents into the dilatation, which, of course, increases in size.

An enlarged, deep-seated inguinal *lymphatic gland* may require a more detailed examination, chiefly because it can be pressed down into the deeper tissues, and consequently simulates the reduction of a hernia. Try to grasp the mass between two fingers; then let

the patient cough. The tumour does not increase, nor does it communicate an impulse to the palmar surface of the finger. If the finger is closely applied to the belly wall, its dorsal surface may receive an impulse, which gives a false impression. This should be avoided. Not infrequently, the lymphatic gland can be isolated so that the fingers reach beneath it.

A *psoas abscess*, appearing from beneath Poupart's, may deceive a tyro. The swelling is reducible, but the reduction differs from that of a hernia in that the contents do not glide back suddenly. It has an impulse on coughing. Fluctuation is present above Poupart's, and is communicated to the lower portion of the abscess. In addition, the pathognomonic position of the hip is present, and also the kyphosis of the spine. The *cysts*, which occur in the inguinal region, may be distinguished from herniæ by the absence of impulse, and by their translucency. *Lipomata*, which may extend as far as the peritoneum, are recognised by absence of expansile impulse if compressed from the side.

UMBILICAL HERNIÆ can be mistaken for no other tumours except *ventral herniæ*, which originate close to the site of the navel. The matter scarcely deserves mention, yet it gives an opportunity to practise logical deduction in making a diagnosis. It is possible to find a weak spot in the abdominal wall contiguous to the umbilicus, through which a hernia has prolapsed. It behooves us to decide whether the opening is formed by the umbilicus or by an abnormal gap in the wall. The following signs may be relied upon: 1. The true umbilical hernia is spherical; the ventral elongated. 2. In ventral hernia the umbilical scar is laterally placed, and not in the middle of the tumour. 3. A



strictly circular opening is in favour of umbilical hernia.

A rare condition—*hernia of the umbilical cord*—requires only casual mention. Large herniæ are unmistakable. They may contain part of the liver, which is readily recognised by palpation. They increase in size during expiration, and grow tense during crying. Small herniæ of the cord may be overlooked. It is necessary, therefore, to examine the cord of the newly born for small reducible tumours.

Herniæ which appear at rare sites (such as ventral, obturator, sciatic) must be recognised by the general diagnostic signs common to all herniæ.

*Diaphragmatic hernia* rarely causes symptoms unless it becomes incarcerated. If symptoms of internal obstruction appear, this condition should be borne in mind. After injuries which might cause rupture of the diaphragm, herniæ certainly should be thought of; but, as a matter of fact, they are usually first recognised at autopsy. A large hernia may cause symptoms pointing toward the nature of the trouble, such as dyspnœa; unilateral compression of the lung, with stomach tympany on the same side of the thorax; displacement of the heart; change in position of liver dulness (for the stomach usually helps to form part of the contents of a diaphragmatic hernia). Manual examination of the abdomen by the rectal method of G. Simon might be employed both to clear the diagnosis and to aid in reduction of the hernia.

## CHAPTER XXIII

### STRANGULATED HERNIÆ, AND CONDITIONS SIMULATING INCARCERATION

I HAVE often heard surgeons praised for their boldness, their successes, and their courage in accepting risks. I would like to confront such a surgeon with a patient presenting the symptoms of obstruction, who at the same time possessed one or more irreducible herniæ. Would the surgeon have the courage to say, "None of these herniæ are strangulated; I shall not do a herniotomy"? It requires no courage to operate such a case at the present day; but to refrain from doing a life-saving operation calls for courage of conviction, which is justified only by most careful observation and accurate analysis. The case just presented is, therefore, one in which the thoroughness and experience of an operator is put to the test. Even if these qualities are present in the highest degree, cases arise in which it is impossible to decide whether the symptoms of obstruction are due to the irreducible hernia or to other causes. Translated into a rule for practice, the sentence will read: *In doubtful cases, operate.* The greatest herniotomists have erred, and cut down on non-strangulated herniæ; the most experienced surgeons have failed to discover strangulated herniæ, or have failed to recognise them.