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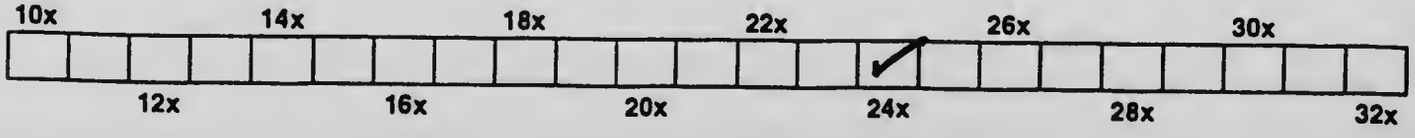

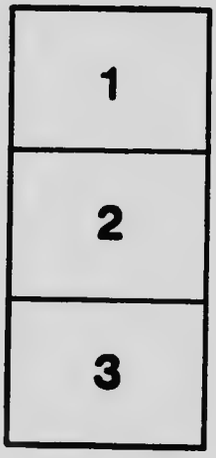

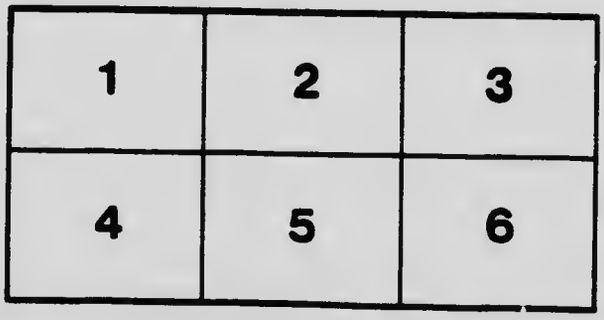

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HERNIA OF THE BLADDER COMPLICATING INGUINAL HERNIA.[1]

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THE fact that in one per cent. of cases of inguinal hernia there is an accompanying hernia of the bladder, endows this subject with great interest, and warns the surgeon to be careful lest he accidentally wound the bladder whilst operating for the radical cure of hernia. Wounds of the bladder in this operation are not so very uncommon,—more common, indeed, than the number of published cases would lead one to believe. Naturally one hesitates to publish one's failures, especially if they have a fatal issue. Now the protruding portion of the bladder is normally very thin, much resembles a hernial sac, and can without much difficulty be included in the ligature of the sac; again, it may be covered with fat which resembles subperitoneal tissue, and it may thus be wounded in the dissection of this from the supposed hernial sac.

Not a few cases of wound of the bladder are produced by the needle in closing the hernial opening.

Many of these accidents are not recognized until either bloody urine is passed or the bad condition of the patient induces the surgeon to open up the wound and look for the cause. Again, urine may escape from the wound, especially if the bladder has been injured extraperitoneally. If the leakage occurs into the peritoneum, then, of course, a fatal result is almost certain. Occasionally the protruding portion of the bladder is a mere diverticulum, and so thin that it has been punctured for a cyst. In such cases tying off the protruding portion has been successful in some instances. Of course it was

[1] Read before the Canadian Medical Association, August 23, 1904.

not recognized at the time that the cyst was a diverticulum and that the bladder was wounded.

Dr. Farquhar Curtis (ANNALS OF SURGERY, Vol. xxi, 1895) has written a most interesting article on "Bladder Wounds in Operations for Hernia." He collected forty-one cases in which there was a mortality of 25 per cent. In twelve out of eighteen cases sutured, primary union was obtained. In many of the cases in which a leakage of urine occurred after operation, the sinus closed spontaneously in from a few days to four months.

Many of these cases occurred prior to the introduction of antiseptic surgery, so it would not be fair to draw too many conclusions from them as to the fatality of bladder wounds. The danger chiefly lies in the tying-off of the sac with the thinned bladder and returning the stump to the abdominal cavity, where, after a short time, there may be an escape of urine into the peritoneal cavity. Many of these fatal cases are not reported. I know of at least two. When it is recognized that the bladder is wounded, prompt closure with a couple of rows of suture will usually result satisfactorily, and the placing of a small drain for a day or two down to the sutured bladder will, if there be leakage, prevent any serious consequences. Curtis mentions cases where, even when the protruding portion of the bladder was tied off, the wound healed without a sinus. It is not necessary to keep a catheter in the bladder after operation.

Jaboulay and Villard (*Lyon Médicale*, 1895) report three cases of hernia of the bladder where in two cases the bladder was wounded and one died. In one case the whole bladder with the prostate was herniated.

The commonest form of hernia of the bladder is the extraperitoneal, where the bladder protrudes towards the lower and inner part of the sac,—the posterior and inner wall of the bladder forming the lower and anterior wall of the sac containing the bowel. In most cases the sac containing the bowel protrudes beyond the bladder, but its lower wall is continuous with the peritoneum covering the posterior wall of the bladder.

The bladder may be within the sac altogether, the intraperitoneal portion alone protruding, or there may be a hernia of both intra- and extraperitoneal portions. In all my cases it was evidently the extraperitoneal portion of the bladder which protruded, and the lower wall of the hernial sac was bounded by the bladder, the peritoneum forming this part of the sac being closely attached to the bladder and pulling that organ down with it as it protruded. In only one of the cases could any history be got connecting the hernia with the bladder.

CASE I.—E. T., aged fifty years, consulted me for a hernia from which he had suffered for some years, and for which he had never worn a truss. Whilst in the Northwest, he had, when lifting, felt something give way in the right groin, and he afterwards noticed a lump there; this lump on lying down disappeared. For the last year or two the swelling had become greater, and at times he has been seized with severe paroxysms of pain; has never had any difficulty in micturition.

On examination I found an inguinal hernia with a very large opening, through which the hernia could be reduced, leaving, however, a thickening supposed to be a sac. I ordered a truss for him, which he wore comfortably for some time, but of late, he tells me, the truss was quite inefficient and the cause of considerable pain. He could rarely reduce the tumor completely, and when reduced the truss would not hold it in place. Besides, he complained of much pain in the tumor, especially when wearing the truss, and demanded operation. This was agreed to, and he was admitted as a private patient into the Montreal General Hospital, November 22, 1901.

Operation.—On November 23, 1901, after the usual preparations, the patient was etherized and the usual incision made for the radical cure. The tumor was quickly come upon, and it was seen that the cord was to the outer side and not attached to the tumor, as is usually the case. The opening through which the sac protruded was very large, and there appeared to be no distinct neck to the sac. This sac was thin above, and through it could be seen the intestines, but below it appeared to be covered with fat, or rather a mass of fat surrounded the anterior part of the sac, which seemed to go towards the pubis. Not wishing to cut this off without knowing what it was, I began carefully to dissect it away.

I found this fatty tissue very granular, vascular, and difficult to separate; suddenly I opened into a smooth cavity, from which escaped an amber-colored fluid. I then immediately recognized that I had to deal with an opened bladder. The rent was several inches long, and the bladder beneath had much the appearance of a hernial sac, so thin was it.

Rather startled by this accident, I at once knew I had to deal with a hernia of the bladder. The rent was sewn up with a double row of Lembert sutures; the upper part of the sac when opened showed its anterior wall to be the outer and posterior wall of the bladder. The large opening, after transplanting the cord, was closed with chromicized-gut sutures, a space being left for a drainage-tube in case there should be a leak from the sutured bladder. A small, soft rubber catheter was placed in the bladder and left there for two days, to act as a drain and prevent tension in the sutured bladder.

The patient recovered well from the operation; had no temperature or pain; the tube was removed on the second day, and also the catheter, and from that time his recovery was uninterrupted. At present he is well, and there has been no return of the hernia. I have questioned him since carefully, and he tells me he has never had any trouble with his bladder, nor had he ever noticed any diminution of the size of the tumor after micturition; in fact, he had never the slightest trouble with his bladder, nor did he ever connect the bladder with the tumor.

CASE II.—*Right Inguinal Hernia with Hernia of Bladder, recognized before Ligating the Sac.*

M. L., aged forty years, has been suffering for some years from a rupture on the right side; he thinks it came from a strain received several years ago. The hernia could not be satisfactorily controlled by a truss, and he was sent to the Montreal General Hospital for operation.

On admission, January 15, 1902, it was found that he was suffering from a right inguinal hernia which could not be completely reduced. The opening was out of proportion to the size of the hernia. He had never noticed any connection between the size of the tumor and micturition.

Operation, January 16, 1902.—The usual incision for Bassini's operation was made, the external ring exposed, the aponeurosis of the external abdominal oblique slit up, and the sac ex-

posed. The first thing that was noticed was that the cord was to the outer side of the sac, and was not involved in it; indeed, it was quite apart from it. This condition, being the same as in Case I, excited my suspicions, and I carefully examined the sac and found that it could not readily be separated anteriorly and internally; that, in fact, it spread itself towards the pubis so that no distinct neck could be found. The upper and posterior part of the sac was freed and opened, and then it was found that the anterior wall of the sac was the posterior wall of the bladder, and the part internal and anterior was a very thin part of protruded bladder; this was proved by the introduction of a sound and making it enter the lower part of the sac outside the oblique muscle. The posterior part of the sac was ligated and the anterior returned, the cord transplanted and the opening closed, as usual, with chromicized-gut sutures.

The patient's recovery was normal and uneventful, and I have since heard that the result has been most satisfactory.

CASE III.—*Right Inguinal Hernia with Hernia of Bladder; Sac Bilobate.*

J. C., aged fifty-four years, was admitted into the Montreal General Hospital, April 5, 1902, complaining of a swelling in the right inguinal region.

The patient, who is rather an undersized, poorly developed man, says he has not felt well for some years. About seven years ago he noticed that after lifting a heavy weight a swelling appeared in the right inguinal region. This swelling disappeared on lying down, and reappeared on exerting himself in any way when in the erect position. It gradually became larger, and its appearance was accompanied by a dragging sensation. He noticed that after micturition the size of the tumor somewhat diminished, but never entirely disappeared, except when in the recumbent position. He had worn several trusses, but none were satisfactory, all causing pain. Many years ago he had a bubo in the right groin, which was incised, and there is a large scar in that region.

On examination, and getting him to cough whilst standing, a considerable tumor appears in the right inguinal region, the opening through which it comes being very large.

Operation, April 11, 1902.—The usual incision having been made, the sac was exposed. After splitting up the external oblique muscle, a very large opening was seen, through which a mass

protruded the size of a small orange. The cord was behind the sac, but quite separate from it, and could be easily held out of the way. The sac when carefully examined was found to consist of two parts, separated by a groove, viz., an upper and outer and lower and inner; the upper sac was very thin, and through it the intestines could be seen moving; the lower sac was thicker and firmer and covered with a lot of vascular granular fat, and the sac ran towards the pubis.

From my experience of the above two related cases, I at once recognized that the lower sac was the bladder; this was proved by the introduction of a sound which, with some manipulation, was induced to enter the diverticulum protruding through the abdominal walls. A careful attempt was made to separate the two sacs, and when this was partially accomplished the upper sac was tied off and the whole hernia reduced. After transplanting the cord, the opening was closed in the usual way in Bassini's operation with chromicized gut.

The patient's recovery was uneventful, and he was discharged three weeks after operation. I have seen him quite recently (February, 1904), and he tells me he is perfectly well, and there has been no return of the hernia.

CASE IV.—*Right Direct Inguinal Hernia with Hernia of the Bladder and Hydrocele of the Sac; Wound of the Muscular Coat of the Bladder.*

A. W., aged thirty-eight years, entered the Montreal General Hospital, April 15, 1903, for the radical cure of hernia in the right inguinal region. He has also a fluctuating swelling which descends to the scrotum. The patient, whilst lifting a heavy weight some twelve years ago, felt something give way in his right groin, and noticed a swelling in that region. This easily went back; and he consulted a doctor, who gave him a truss, which he wore for a year, and then gave up because he thought himself cured, but since then every two or three weeks the tumor would reappear. He easily put it back, and thus on some occasions it would not return for a month. Latterly, although he could reduce the tumor easily, it would come back immediately, but never caused him any trouble until the day before he entered the hospital, when he was unable to reduce it. Has never had much pain; never could pass water whilst lying down; but the bladder was easily emptied while standing. Has always been healthy and has worked hard.

On examining the patient, a large, tense, smooth tumor, oval in shape, the size of one's closed fist, seen in the right inguinal region and extending into the scrotum; the tumor is dull on percussion. The testicle is below and external to the tumor and quite separate from it. The tumor could not be reduced, but is not tender.

Operation.—An incision about four inches long was made over the tumor, extending into the scrotum; the tumor was separated from the surrounding tissues, and it was noticed that the cord was not blended with it, but was to the inside and quite separate. The sac seemed to be dilated and to contain fluid below and omentum above; the latter could be seen moving on the sac with respiration.

As complication with the bladder was suspected, the sac was carefully opened over the contained omentum, and then it was found that there was a collection of fluid in a sac in front. On passing a sound into the bladder, it was seen that the inner and anterior wall of the sac was formed of that organ. The omentum, which was partly adherent, was tied off and cut away, and then the sac was carefully dissected from the protruding bladder. In this dissection the muscular coat of the bladder was wounded, but the bladder was not opened. After suturing the wounded bladder, the sac was tied off and the bladder reduced. The usual Bassini operation was performed and the wound closed with four chromic gut sutures, care being taken not to injure the bladder in passing the sutures. On careful examination the hernia seemed to be direct.

The patient recovered rapidly and had no drawbacks during convalescence; he could quite easily micturate now whilst lying down. He was discharged twenty-two days after operation quite well, and there has since been no return of his hernia.

This case was much complicated by the fact that there was a sac of fluid in front of the tumor, not communicating either with the hernial sac proper or with the bladder.

It is most important to recognize hernia of the bladder when operating for the radical cure of hernia, and there are certain points to which my attention has been directed in the cases I have met with which would enable one to avoid mis-

takes. *First,* the inguinal opening is always large, out of proportion to the size of the protruding intestines. *Second,* the cord is not intimately associated with the sac of the tumor, but can be readily held aside without dissection; it is usually to the outer side of the tumor. *Third,* in two at least of my cases the hernia was a direct one, and in all had been produced by a sudden strain. *Fourth,* the difficulty of finding a neck to the sac, for the anterior portion of the sac stretches away towards the pubis, and is perhaps covered with granular and very vascular fat. In my fourth case the condition was complicated by the presence of a collection of fluid in front of the sac, which extended into the scrotum.

Having once wounded the bladder, as I did in my first case, the surgeon is always on the lookout for this complication, and readily recognizes it.