

OBTURATOR HERNIA

WITH REPORT OF CASE

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MUMFORD states that about 200 cases of obturator hernia have been reported in surgical literature.

Meyer, reporting 6 cases from the Leipzig clinic, states that 51 cases had been previously reported since 1875.

Grasser has compiled statistics covering 118 cases in a period extending from 1720 to 1890.

In view of these facts, we venture to report our case, trusting that the condition is rare enough to justify reporting.

Occurrence.—The greater number of reported cases have occurred in elderly females. Seventy-nine per cent. of Meyer's cases occurred in women over 60 years of age and the statistics of other authors agree with his.

Most of the cases give histories of considerable emaciation following obesity.

Meyer has drawn some conclusions regarding the etiology of obturator hernia from these facts. They are as follows:

First, obturator opening relatively larger in women than in men.

Second, frequent pregnancies cause laxity and folding of the peritoneum, which may project through the opening.

Third, emaciation removes the normal cushion of fat and renders the opening more easily penetrable.

Fourth, subserous lipomata, which often coexist with this form of hernia, may be responsible for the origin in some cases. He adds that views concerning the origin of obturator hernia have never been uniform.

Types.—Lejar described three types of this condition:

1. Type traversing the entire length of the obturator canal from behind forward emerges from the anterior orifice and spreads out in front of the external obturator muscle and under the pectineus.

2. Emerges between the upper and middle fasciculi of the external obturator muscle and becomes encircled and constricted by double muscular band.

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3. Hernial sac burrows from above downward between the two layers of the obturator membrane and remains entirely behind the external obturator muscle. On opening the pectineus, no hernia presents itself and a second muscular plane must be incised before the sac is found. Other difficulties are caused by the inconstant relationship of the obturator artery and its branches to the neck of the sac.

Diagnosis.—Diagnosis is extremely difficult. Mumford states that operation has never been performed up to the present time except for strangulation.

1. With the pelvis elevated and the thigh flexed and moderately abducted, the hernia may occasionally be recognized as a prominent swelling in the upper part of the adductor region to the inner side of the femoral vessels. Often, however, the swelling is small and little apparent and only a diffuse asymmetry can be discerned.

2. Localized pain may be elicited by pressure at the inner part of Scarpa's triangle near the pubic spine. If the pain radiates definitely down the inner side of the limb to the knee, the diagnostic value will be increased. This is called Romberg's sign and is due to compression of the obturator nerve. It is rarely absent.

3. The entrance to the obturator canal is accessible to vaginal palpation in the female and localized pain or a characteristic swelling or tense band may sometimes be recognized by this means.

This may also be demonstrated by rectal examination in the male.

Meyer very sensibly remarks that diagnosis, at best, is only a probable one and that operation should therefore be early.

Operation.—Lejar advocates the following procedure:

First, pelvis raised by thick pillow or sand bag, thigh flexed and moderately abducted, recognize femoral artery and make 5-inch vertical incision one and one-half inches inside of it, beginning one inch below pubic spine.

Second, incise skin, subcutaneous tissue and deep fascia. Avoid the internal saphenous vein or divide it between ligatures. Recognize fibres of adductor longus running obliquely downward and outward and fibres of pectineus along its outer border. Protect great vessels with large retractor and open space between adductor longus and pectineus with grooved director or finger. As the pectineus covers the obturator opening it must be freed and retracted sufficiently to give good exposure. If necessary, a transverse incision may be made in its fibres or it may be detached partially from the horizontal ramus of the pubis in cases where access is difficult.

Third, herniæ of the ordinary type will now be plainly visible and

the sac may be isolated up to its point of emergence. In type two carefully divide the upper portion of the muscular band.

In type three the hernia will be beneath the obturator muscle and this must be freely opened by separation in line of fibres or free division.

Fourth, after freeing sac, open by a careful incision, making sure by palpation and inspection that no aberrant artery runs over the anterior surface. Try to free neck by stretching downward and inward with tip of index finger. In case this cannot be done bear in mind the following facts:

(a) Constriction is always due to edge of obturator membrane external to sac.

(b) Draw sac aside, seek extravascular zone by palpation, or make sure of position of obturator artery and branches. Make two or three very cautious nicks under direct inspection and complete by stretching with finger. In case the neck is surrounded by a complete arterial ring make incision between two pairs of hæmostats applied high as possible.

Fifth, extract, inspect and, if necessary, repair herniated bowel.

Ligate sac and, if possible, close anterior orifice of canal by a few sutures.

Lejar strongly emphasizes the dangers due to the vascular relations in these cases. While in the ordinary type of hernia the artery and nerve are usually behind the neck of the sac and a little to its outer side, the artery has been found on all sides of the sac and the neck has been found surrounded by a complete arterial circle. Consequently, the freest possible access should be provided, the neck of the sac clearly exposed, the position of the neighboring arterial branches ascertained by inspection and palpation, and ample room provided for adequately dealing with hemorrhage in case a large vessel should be wounded in spite of all care. He also mentions the abdominal operation, saying that it usually permits of more easy reduction and avoids the vascular dangers. However, he says that extreme caution is necessary to prevent peritonitis from septic sac contents. While the sac cannot be excised by the abdominal route the neck can be closed by a few sutures.

Meyer advocates the abdominal operation, citing the following advantages:

1. Better view of field of operation.
2. Reduction facilitated.
3. Intestinal resection can readily be performed, if necessary.

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Mumford suggests the advisability of opening the abdomen from above after isolating the sac and freeing the neck. This would give advantage in making any necessary repairs on the bowel and would also permit of ligation and removal of the sac. He says results have been unfavorable in this operation because of the difficulty in adequately treating the herniated bowel through the obturator opening.

Mortality.—Grasser's statistics showed a mortality of $78\frac{31}{100}$ per cent. in 118 cases. Meyer had a mortality rate of 54.27 per cent., Levit had a mortality rate of 50 per cent. in four cases. The fact that many of the patients are elderly women in a poor state of nutrition partly explains the high mortality; also many operations are performed late due to diagnostic delays.

CASE REPORT.—J. L. S., male, aged sixty-five years, farmer, entered Tennessee Copper Co. Hospital at 1 P.M. June 27, 1915, referred by Dr. J. M. Daves, of Blue Ridge, Georgia. History of complete intestinal occlusion since June 19. Said he had been troubled by a hernia for four years and it "caught on him" June 19. Claimed he could feel the hernia slip out and could usually get it back, but on this occasion he could not do so.

Pain and shock at first, afterwards complete constipation and profuse vomiting. Operation urged by Dr. Daves and consultant, Dr. Tankersley, of Ellijay, Ga., when they saw patient on June 20.

Patient steadily refused until June 27. No flatus passed with numerous enemas.

Examination.—Temperature $99\frac{2}{100}$, pulse 104, regular and full, white blood count, 10,000; urine negative; abdomen not much distended; large right-sided hydrocele; inguinal and femoral canals apparently normal; no fulness in right obturator region, although patient was considerably emaciated and palpation facilitated.

Romberg's sign present and a peculiar tense mass could be made out on rectal palpation; general condition seemed excellent under the circumstances.

The patient was positive of the existence of a hernia which he was ordinarily able to replace by manipulation and he referred its location to the obturator region. However, he claimed that he had derived benefit from a truss bought and fitted by himself which did not coincide with our ideas of obturator hernia. Obviously, an immediate operation was imperative, so he was prepared at once.

Operation.—Ether anæsthesia, iodine preparation. We decided to at first explore the inguinal and femoral region through

a Bassini incision and if the source of trouble was not found to make an abdominal section. Rapid Bassini exploratory incision revealed right inguinal and femoral regions normal, so abdomen was opened in median line. Small intestine was found distended, cæcum collapsed, coil of small intestine found incarcerated in right obturator opening and held under considerable tension. Cautious examination showed the incarceration very firm and, as it had existed eight days, it was deemed advisable to open the obturator region and fully free the sac as a preliminary to reduction. The pectineus muscle was exposed by the usual vertical incision inside the femoral artery and its fibres separated. A hernial sac was found rather small and tightly bound down by numerous tough adhesions.

The sac was thoroughly freed by blunt dissection and, when it was held up for inspection preparatory to opening the herniated bowel, reduced itself. The end of the sac was secured by a forceps and the bowel inspected through the abdominal opening. There was no evidence of circulatory impairment and the condition seemed excellent except for a few abrasions of the serous surface near the mesenteric border. These were repaired by silk Lembert sutures.

The obturator opening was examined and the sac was found empty.

The opening barely admitted the tip of the index finger. The abdominal incision was closed. The sac was then ligated and cut off high up and the obturator incision closed. The condition of the patient seemed very good, so the right testicle was brought through the inguinal incision and the hydrocele quickly operated by the eversion method of Jaboulay. The inguinal incision was closed and the patient left the table with no evidence of shock and in very satisfactory condition.

Subsequent Course.—Gas was passed freely a few hours after the operation and excellent results obtained from an enema the following day. Recovery was absolutely uneventful and the patient protested vigorously against the cautious administration of liquid nourishment during the first few days of his convalescence. He left the hospital July 15, in excellent condition.

CONCLUSIONS

First, the difficulties attending diagnosis of obturator hernia are well illustrated in this case. In spite of the fact that this patient gave a clear history of hernia referred to the obturator region and that his emaciation facilitated palpation, a positive diagnosis could not be made without abdominal section.

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Second, in view of the difficulty of positive diagnosis and the difficulty of exposing the obturator region by dissection, a preliminary median abdominal laparotomy seems a very sensible procedure in suspected cases of obturator hernia. It has the following points of advantage:

- (a) The diagnosis is cleared up at once.
- (b) The possibility of making an exposure of the obturator region only to find no hernia there is avoided.
- (c) The abdominal incision greatly facilitates any necessary repair of the herniated intestine.
- (d) In cases where the condition of the patient demands quick work, the hernia can be reduced from within the abdomen, relieving the constriction under direct inspection with the patient in the Trendelenberg position. The obturator opening could then be closed by a few sutures from within.
- (e) When the patient's condition permits the obturator region can be exposed and the sac dissected free and ligated. Inasmuch as it establishes diagnosis at once and facilitates subsequent operative procedure, preliminary laparotomy seems extremely rational.

Third, the modern system of prompt laparotomy in the early stages of all cases of intestinal occlusion will, no doubt, very much lower the mortality rate in future cases of obturator hernia.

BIBLIOGRAPHY

- Lejar's Urgent Surgery, vol. 2.
Levit: Beitrag zu den seltenen hernien, Bruche ruit seltener anatomischer Lage.
Čas. lék. Česk., 1913, lii; Zentralbl. f. d. Ges. Chir. u. i. Grenzgeb.
Meyer: Über Hernia obturatoria. Arch. f. klin. Chir., 1914, ciii, 497; Zentralbl. f. d. Ges. Chir. u. i. Grenzgeb.
Mumford: Practice of Surgery.