

OBTURATOR HERNIA: A CASE REPORT

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SUMMARY

Obturator hernia is a rare clinical entity usually presenting with strangulation. Preoperative diagnosis is seldom made and this has contributed to a high mortality. One should suspect a strangulated obturator hernia in an elderly thin female patient presenting with vague abdominal symptoms or intestinal obstruction associated with a positive Howship-Romberg sign. Urgent laparotomy is indicated to establish the diagnosis and for resection of bowel if indicated.

INTRODUCTION

The anatomy, clinical features, diagnosis and treatment are reviewed. The Howship-Romberg sign which is pathognomonic of this condition is described. The first case of strangulated obturator hernia from Malaysia is reported.

Case Report

N.K., a 17-year-old Chinese female was admitted to the General Hospital, Kuala Lumpur complaining of colicky abdominal pain, abdominal distension, nausea but no vomiting for 10 days and absolute constipation for four days. The pain radiated to the inner aspect of the right knee. Enema was given with good result but the symptoms persisted. She had no previous abdominal operation. She was afebrile, pale, emaciated and moderately dehydrated. There was

generalised central abdominal distension and tenderness. Bowel sounds were hyperactive. Rectal and vaginal examinations were normal.

Investigation: Her Haemoglobin was 9.6 gm %, total WBC and differential count and serum electrolytes were normal. Abdominal x-rays showed distension of small bowel with multiple fluid levels. An x-ray of the right knee was normal.

Diagnosis of intestinal obstruction due to a colonic tumour was made, and she was put on continuous nasogastric aspiration and intravenous fluids. There was no improvement in 24 hours and an exploratory laparotomy was performed through a right paramedian incision. A right obturator hernia containing a knuckle of ileum (Richter's type) about 10 cm from the ileo-caecal junction was found. The gut was viable but in the process of reduction, the dilated ileum perforated about 6 cm proximal to the obstruction. This segment of ileum was resected and end-to-end anastomosis performed. The orifice of the obturator canal was closed with simple interrupted silk sutures. The post-operative period was complicated by wound sepsis necessitating a secondary suture three weeks later. She was discharged well from hospital in five weeks.

REVIEW

In 1724, Pierre Roland Arnaud de Ronsil first described obturator hernia when he presented two cases to the Royal Academy of Sciences in Paris. ¹ Camper in 1726, described the anatomy of the obturator hernia. ¹ In 1743, de Garengot reported a case and reviewed six others. ² G. de Ronsil, the son of Pierre de Ronsil, was the first to reduce an obturator hernia by taxis, in 1768. ² Hilton is credited with performing the first laparotomy for a

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strangulated obturator hernia in 1848.¹ Henri Obre (1851)³, Colson (1863) and Godlee (1885) reported successful operative treatment. In 1924, Horine⁴ reviewed 258 cases in the literature. By 1946, this had increased to 442 (Watson).⁵ To date, more than 500 cases have been reported.

Anatomy⁶

The internal or pelvic aperture of the obturator canal is an oval opening at the upper border of the obturator membrane which admits the tip of the index finger. Two thirds of the circumference is composed of bony wall, the remainder is formed by the sharp margin of the strong obturator membrane. The canal is 2 to 3 cm long and runs obliquely forward, downward and medially. It is bounded in the upper part by the obturator groove on the inferior surface of the superior ramus of the pubis and the lower part by the junction of the parietal pelvic fascia with the upper border of the obturator membrane. It transmits the obturator vessels and nerve. In 10% of cases the obturator artery arises from the inferior epigastric artery.

Gray (1974)⁷, described 3 stages in the formation of an obturator hernia. In stage 1 (prehernial stage), which is relatively common, preperitoneal fat and connective tissue form a "pilot tag" in the obturator canal. In stage 2, the peritoneum enters the canal to form an empty hernial sac. An organ, usually the ileum, gets caught in the sac and produces symptoms in stage 3.

Wakeley (1969)⁸ described 3 anatomical types of herniation in this region: (a) through the obturator canal, which is the commonest form, (b) between the middle and superior fascicule of the obturator internus and (c) between the external and internal obturator membrane, which is the rarest form.

The commonest content of the sac is the ileum with about 50% being of the Richter's type. Other less common contents e.g. appendix, sigmoid epiploica, omentum, uterine tubes, bladder and Meckel's diverticulum^{7,8,9} have been described.

Clinical Features

Gray (1974)⁷, Joseph (1968)¹⁰ and Kazlowski (1977)¹¹ found obturator hernia to occur six times more frequently in females than in males. Larrieu, Salvatore and Demareo (1976)¹² in a review of 521 cases in the literature found a 9:1 female:male ratio. Martin and Welch (1974)¹³ also noted a sex ratio of 9:1 in 20 cases. It has been suggested that

the more horizontal direction of the axis of the obturator canal and the greater transverse diameter of the obturator foramen in the female are predisposing factors.

In the male, the right and left sides are affected equally. Gray and Soria⁷ have found that in females 75% occur on the right side. Bilateral herniae are very rare (6%).¹

Patients' ages range from 50 to 80 years, the majority being in the seventh and eighth decades.^{7,10,12} Reduction in fat in the obturator canal in the aged allows gut to herniate into the canal easily.

Factors which cause an increase in intra-abdominal pressure e.g. chronic bronchitis and emphysema, chronic constipation, urinary obstruction in the male and repeated pregnancies, predispose to the formation of obturator hernia. The lax peritoneum in the multiparous patient is a contributory factor.

Diagnosis

Preoperative diagnosis is made in only about 20% of cases.⁹ Patients usually present with symptoms of subacute to acute obstruction which may be recurrent. Strangulation occurs early. Finding of a lump in the groin is rare due to the small size of the hernia and the protective covering of the adductor muscles. A tender mass at the obturator foramen can sometimes be elicited during a vaginal or rectal examination.

Howship-Romberg Sign

Howship in 1840 and Romberg in 1845 stressed the significance of pain in the distribution of the obturator nerve i.e. the medial aspect of the thigh up to the knee joint, due to pressure on the obturator nerve by the hernia in the obturator canal. Sometimes the pain radiates to the hip joint. The affected leg is usually held in a position of flexion, abduction and external rotation, which relieves the pain. Extension, adduction, or medial rotation produces tension on the obturator externus muscle and exacerbation of the pain. This sign occurs in about 50% of cases^{12,13} and is often missed or mistakenly attributed to osteoarthritis.

A plain abdominal x-ray will show evidence of intestinal obstruction. A loop of air bubble in the region of the obturator canal may suggest the diagnosis.¹³ Barium enema and barium meal and follow-through examination may be helpful^{13,14}

but are not usually necessary. The urgency of the problem necessitates a laparotomy for intestinal obstruction.

Treatment

Treatment is surgical. There is no place for reduction by taxis which can be hazardous. Many surgical approaches favour the abdominal approach. Shackelford¹⁵ suggested four advantages to this approach: (1) it establishes the diagnosis, (2) it provides adequate exposure of the obturator canal, (3) there is less danger to the obturator vessels and nerve, (4) it permits intestinal resection where necessary. The obturator (Anderson 1900)⁸, inguinal (Milligan, 1919)⁸ and Chattle-Henry¹⁶ approaches avoid opening the peritoneum but have obvious disadvantages when the diagnosis is doubtful or when gut resection is necessary.

Many methods of repairing the defect in the obturator canal¹ have been described. Simple closure of the entrance of the canal with interrupted sutures is usually adequate.

Mortality has been as high as 50 percent.⁷ However it is encouraging to note that in more recent reports this has fallen to about 20 percent.¹² High mortality is attributable to the age of the patients, associated respiratory and cardiovascular diseases and late diagnosis.

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