Obturator Hernias: Causes, Symptoms, Diagnosis, and Treatment

Introduction

Obturator hernias are rare abdominal wall hernias in which abdominal contents protrude through the obturator foramen, a small opening in the pelvic wall. This type of hernia is one of the least common but is also particularly dangerous due to its high rate of complications and its tendency to be diagnosed late. Obturator hernias are most often seen in thin, elderly women and are more common in Asian countries than in Western ones. Understanding the unique characteristics, symptoms, and treatment options for obturator hernias can help manage this complex condition effectively.

What is an Obturator Hernia?

An obturator hernia occurs when abdominal contents, typically parts of the small bowel, protrude through the obturator foramen, located on the anterolateral pelvic wall. The ischium and pubis bones form this foramen and are mostly covered by a fibro-osseous membrane. Only a small opening in the anterosuperior part of the foramen allows the obturator nerve, artery, and vein to pass through, supplying the medial upper thigh.

Epidemiology and Prevalence

Obturator hernias account for less than 1% of all abdominal wall hernias. This hernia type primarily affects elderly women between the ages of 70 and 90, especially those underweight or with a low body mass index (13-19 kg/m²). Regarding laterality, right-sided obturator hernias are twice as common as left-sided ones, as the sigmoid colon may partially cover the left obturator foramen.

Stages of Obturator Hernia Formation

Obturator hernias progress through three anatomical stages:

1. **Pilot Tag Stage**: Preperitoneal fat enters the pelvic orifice of the obturator canal.
2. **Peritoneal Dimple Stage**: A peritoneal dimple forms, leading to the development of a peritoneal sac.
3. **Visceral Protrusion Stage**: Abdominal viscera, usually small bowel (particularly the ileum), enter the hernia sac, leading to symptoms.

The hernia sac may contain other abdominal organs, such as the large bowel, omentum, fallopian tube, or appendix. In more than 90% of cases, obturator hernias are diagnosed during exploratory surgery for bowel obstruction, as they often present with repeated episodes of self-resolving small bowel obstruction.

Symptoms and Clinical Signs

Obturator hernias may present with various symptoms, including pain and nerve compression, which can complicate diagnosis:

- **Obturator Neuralgia**: The most common symptom is groin pain that radiates medially to the knee and results from compression of the obturator nerve.
- **Thigh Mass or Ecchymosis**: If the hernia is large or bowel necrosis has occurred, patients may present with a palpable mass in the upper thigh between the pectineus and adductor longus muscles or ecchymosis (bruising) on the thigh.

Diagnostic Challenges

Obturator hernias are often mistaken for other conditions due to their deep location and the lack of a visible bulge. They are sometimes confused with femoral hernias but can also coexist with them. When diagnosis is uncertain, imaging is essential:

- **CT Scan**: Provides detailed views of the pelvis and is the most common imaging modality for confirming obturator hernias.
- **Ultrasound** and **MRI**: Can also be used to visualize the hernia, especially when CT is not available or is inconclusive.

Treatment Options

Surgical repair is the only treatment for obturator hernias. Due to the high risk of bowel obstruction and strangulation, both symptomatic and asymptomatic obturator hernias are candidates for surgery:

1. **Emergency Surgery**: For patients with incarcerated hernias leading to small bowel obstruction, urgent surgical intervention is necessary to prevent bowel necrosis and gangrene.
2. **Approaches to Repair**:
    - **Transperitoneal (Open or Laparoscopic)**: This approach provides full access to the abdominal cavity, allowing the surgeon to inspect and repair the hernia and assess bowel viability. It is preferred for cases with bowel obstruction or gangrene.
    - **Obturator or Inguinal Approach**: Some surgeons may use these approaches when there is no bowel obstruction, allowing direct access to the obturator canal and minimizing intra-abdominal adhesion risks.
    - **Posterior Preperitoneal Approach**: This approach is preferred in cases without bowel obstruction, as it allows direct access to the hernia while avoiding intra-abdominal adhesions.
3. **Surgical Technique**:

- **Reduction of Hernia**: If needed, an incision in the obturator membrane may be made at the lower margin of the obturator canal to avoid injuring nearby nerves and vessels.
- **Defect Repair**: Simple suture repair may be sufficient for hernia defects smaller than 1 cm. Larger defects (>1 cm) typically require reinforcement with prosthetic materials or an omental patch if contamination occurs.
- **Contralateral Examination**: Surgeons often examine the opposite obturator canal and reinforce it if needed to prevent future hernias.

Postoperative Considerations

The morbidity and mortality rates for obturator hernia repairs are high, ranging from 38% to 70%, depending on the patient's health and the presence of complications like bowel necrosis. Recurrence rates are approximately 10% for primary repairs done without mesh reinforcement. Due to these risks, postoperative care includes close monitoring for infection, recurrence, and bowel function.

Conclusion

Obturator hernias, though rare, represent a serious and complex type of hernia that primarily affects thin, elderly women and can be difficult to diagnose due to subtle symptoms. Surgical repair is the standard treatment, with a preference for transperitoneal approaches in cases of bowel obstruction. Given the high risk of complications and mortality, early diagnosis and tailored treatment are essential to improve outcomes. Recognizing clinical signs like Howship-Romberg and Hannington-Kiff can aid in diagnosis, and imaging studies like CT scans are invaluable for confirmation. Awareness of obturator hernias can ensure timely intervention and better care for affected patients.