

Parastomal Hernias: Causes, Symptoms, and Treatment

Introduction

Parastomal hernias are a type of incisional hernia that develop around a stoma—a surgically created opening on the abdominal wall for waste diversion following bowel or bladder surgery. Occurring in nearly half of all patients with a stoma, parastomal hernias result from the protrusion of abdominal contents through the weakened abdominal wall around the stoma site. These hernias can lead to discomfort, complications, and even impact the effectiveness of the stoma. Early recognition and proper management are crucial to improve patient quality of life and prevent serious complications.

What is a Parastomal Hernia?

A parastomal hernia occurs when abdominal contents, typically parts of the intestine or omentum, push through a defect in the abdominal wall around the stoma site. The hernia causes a bulge around the stoma and can vary in size from mild protrusions to large, symptomatic hernias that interfere with stoma function. Parastomal hernias are one of the most common long-term complications after stoma creation, particularly in patients with colostomies.

Epidemiology and Prevalence

Parastomal hernias are common among patients with a stoma, with incidence rates varying by the type of stoma. Colostomies have the highest incidence, with nearly 50% of patients developing a parastomal hernia within the first two years following surgery. Factors such as patient age, stoma location, and surgical technique influence the likelihood of hernia formation.

Risk Factors

Several factors contribute to the development of parastomal hernias, including:

- **Type of Stoma:** Colostomies have a higher risk of herniation than ileostomies or urostomies due to increased intra-abdominal pressure in the left lower abdomen.
- **Age:** Older adults are more susceptible due to naturally weakened connective tissue.
- **Obesity:** Increased abdominal pressure from excess weight can strain the abdominal wall.
- **Poor Nutritional Status:** Malnutrition affects wound healing and abdominal wall strength.
- **Chronic Cough or Straining:** Conditions like COPD, constipation, or heavy lifting can increase intra-abdominal pressure, promoting hernia formation.

- **Surgical Technique:** The placement and method used to create the stoma can impact the likelihood of hernia development. End colostomies, where the bowel is brought directly through the abdominal wall, have higher risks than loop stomas.

Pathogenesis of Parastomal Hernias

Parastomal hernias arise from the weakening of the abdominal wall around the stoma site, typically due to increased intra-abdominal pressure and insufficient support around the stoma. This weakening allows abdominal contents, such as parts of the intestine, to protrude through the area surrounding the stoma, forming a hernia. Over time, the hernia may enlarge, resulting in increased symptoms and potential complications.

Symptoms and Physical Findings

Parastomal hernias can present with varying symptoms, depending on the size and severity of the hernia. Common signs and symptoms include:

- **Bulge Around the Stoma:** A noticeable bulge near the stoma, which may become more pronounced with activities that increase abdominal pressure, such as coughing or lifting.
- **Discomfort or Pain:** Pain or discomfort around the stoma site, often worsening with movement or physical activity.
- **Difficulty Fitting the Stoma Appliance:** As the hernia grows, it can change the shape of the stoma, making it challenging to securely fit the stoma appliance, leading to leakage or skin irritation.
- **Bowel Obstruction Symptoms:** In cases of hernia incarceration (when hernia contents become trapped), symptoms such as nausea, vomiting, abdominal bloating, and constipation may occur. Strangulation, where blood flow is compromised, is a surgical emergency.

Diagnostic Evaluation

Diagnosing a parastomal hernia generally involves a physical examination, but imaging may be needed to confirm the diagnosis, especially if complications are suspected. Diagnostic tools include:

- **CT Scan:** The most commonly used imaging modality for parastomal hernias, providing detailed information on hernia size, contents, and any associated complications like incarceration.
- **Ultrasound:** A non-invasive option that may help visualize hernias, although it is less effective for evaluating complex cases compared to CT scans.

Treatment Options

The management of parastomal hernias depends on the severity of symptoms, the risk of complications, and patient preferences. Options range from conservative management to surgical repair.

1. Conservative Management:

- **Support Belts or Hernia Belts:** Specially designed belts or support garments can help provide support to the abdominal wall, reduce discomfort, and prevent hernia progression.
- **Lifestyle Modifications:** Patients may benefit from avoiding heavy lifting, managing chronic cough or constipation, and maintaining a healthy weight to reduce intra-abdominal pressure.
- **Optimizing Stoma Appliance Fit:** Ensuring a well-fitted stoma appliance can help minimize leakage and discomfort.

2. Surgical Repair:

Surgery is typically recommended for symptomatic or complicated hernias, especially in cases of incarceration or strangulation. Surgical repair options include:

- **Relocation of the Stoma:** In some cases, the stoma is moved to a different location on the abdominal wall to prevent hernia recurrence. However, this procedure requires new tissue mobilization and carries its own risks.
- **Hernia Repair with Mesh:** Mesh repair is a common approach to reinforce the weakened area around the stoma, reducing the recurrence rate. Types of mesh repairs include:
 - **Sublay Mesh Repair:** The mesh is placed beneath the abdominal muscles to reinforce the abdominal wall and support the stoma site.
 - **Keyhole Mesh Repair:** A circular opening in the mesh allows the stoma to pass through, providing support while minimizing mesh contact with the intestine.
- **Laparoscopic or Robotic Repair:** Minimally invasive approaches to parastomal hernia repair use small incisions, providing advantages such as reduced postoperative pain, faster recovery, and shorter hospital stays. However, these methods may not be suitable for all patients.

Benefits and Considerations for Surgical Repair

Surgical repair of parastomal hernias has several advantages, particularly when minimally invasive techniques and mesh are used:

- **Reduced Recurrence Rates:** Mesh reinforcement is associated with lower recurrence rates compared to non-mesh repairs.
- **Improved Quality of Life:** Repair can alleviate symptoms, reduce discomfort, and enhance the fit and functionality of the stoma appliance.

- **Lower Risk of Complications:** Early intervention can prevent serious complications like bowel obstruction or strangulation.

However, it's important to note that surgical repair carries risks, including infection, stoma complications, and recurrence. The choice of surgical technique depends on individual patient factors, including the size and location of the hernia, prior surgeries, and overall health.

Conclusion

Parastomal hernias are a common complication following stoma surgery, affecting nearly half of all patients over time. While conservative management may be appropriate for mild cases, surgical repair is often recommended for symptomatic or complicated hernias. Advances in surgical techniques, especially with mesh reinforcement and minimally invasive approaches, offer effective options for managing parastomal hernias and improving patient outcomes. Early diagnosis and tailored treatment are key to enhancing quality of life and preventing serious complications for those with parastomal hernias.