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General Surgery

UNEXPECTED PRESENTATION OF SPLENIC FLEXURE AND DESCENDING COLON IN A RIGHT INGUINAL HERNIA: A RARE CASE REPORT

KEY WORDS: Inguinal Hernia, Splenic Flexure, Descending Colon, Cardiomyopathy

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ABSTRACT

Inguinal hernias usually contain mobile abdominal structures such as omentum or small bowel, while herniation of the splenic flexure or descending colon is exceedingly uncommon because these segments are normally fixed in the retroperitoneum. We describe a 64 year old man with a chronic right inguinal hernia who presented with abdominal distension, vomiting, and a painful irreducible swelling. Imaging suggested bowel obstruction and his known dilated cardiomyopathy with an ejection fraction of 20% significantly increased surgical risk. Emergency exploration revealed the splenic flexure and descending colon within the sac, with non-viable bowel requiring resection. A Hartmann's procedure was performed and hernia repair was postponed due to contamination and unstable physiology. Postoperative management in the ICU resulted in clinical stabilization. This report underscores the rarity of left colon herniation into a right inguinal sac and highlights the importance of individualized, multidisciplinary treatment in highrisk patients.

INTRODUCTION

A hernia is defined as the protrusion of an organ or tissue through a defect in the wall of its containing cavity. Inguinal hernias are the most frequently encountered anterior abdominal wall hernias, particularly in men. They usually contain omentum or segments of small intestine because of their high mobility within the peritoneal cavity. Large bowel segments such as the descending colon and splenic flexure rarely enter an inguinal sac because their retroperitoneal attachments provide relative fixation. Only under exceptional anatomical or pathological circumstances can these structures migrate sufficiently to herniate.

Complications such as incarceration, strangulation, and gangrene may arise when hernias are neglected or present late. The clinical situation becomes even more challenging in patients with serious systemic illnesses especially severe cardiac dysfunction which increases perioperative risk. This case report describes an uncommon occurrence of splenic flexure and descending colon herniation into a right inguinal sac, complicated by gangrene, in a patient with advanced dilated cardiomyopathy. The case demonstrates the importance of early recognition, collaborative decision-making, and tailored surgical strategies.

CASE PRESENTATION

Patient History

A 64-year-old male arrived at the emergency department with a 5-day history of progressively painful, irreducible swelling in the right groin. The swelling had been present for approximately ten years and was previously reducible, although the patient never sought medical care for it. Over the preceding days, he developed abdominal distension, multiple episodes of vomiting, and absolute constipation. He denied fever, previous abdominal surgeries, or recent trauma.

Medical Background

The patient had known dilated cardiomyopathy, diagnosed several years earlier, with an ejection fraction of 20%. He was on diuretics and ACE inhibitors. There was no history of diabetes, chronic lung disease, or renal impairment.

Clinical Examination

On examination, the patient appeared unwell and dehydrated.

Vital Signs:

- Pulse: 110/min (tachycardia)

- Blood pressure: 100/60 mmHg
- Respiratory rate: 22/min
- Oxygen saturation: 94% on room air
- Abdominal examination revealed distension and sluggish bowel sounds. A tense, tender, non-reducible swelling was palpable in the right inguinal region, with an absent cough impulse. The overlying skin was intact. Digital rectal examination found an empty rectum, consistent with bowel obstruction.

Investigations

Laboratory Findings

- Elevated white blood cell count indicating inflammatory response.
- Normal renal and liver function profiles.
- Electrolytes showed mild hypokalemia.

Cardiac Assessment

- ECG: Sinus tachycardia
- Echocardiography: Severe dilated cardiomyopathy with global hypokinesia and EF 20%.

Imaging

- Abdominal X-ray:** Demonstrated multiple air-fluid levels, suggestive of intestinal obstruction.
- Ultrasound Abdomen:** Revealed a right inguinal hernia containing bowel loops with reduced peristalsis.

These results raised suspicion of bowel compromise within the hernia sac. Given the risk of strangulation and his unstable cardiac status, urgent surgery was planned after rapid yet careful preoperative optimization.

MANAGEMENT

Preoperative Optimization

Considering his severely impaired cardiac function, the patient was managed through a coordinated approach involving general surgery, cardiology, and anesthesiology.

The following measures were taken:

- Supplemental oxygen
- Controlled IV fluid administration to avoid cardiac overload.
- Continuation of cardiac medications as tolerated.
- Prophylactic antibiotics.
- High-risk consent after explaining potential complications.

Intraoperative Findings and Procedure

The patient underwent emergency right inguinal exploration under close hemodynamic surveillance.

Surgical Findings

- The hernia sac contained splenic flexure and descending colon, an extremely rare finding.
- A segment of the colon showed dark discoloration, lack of sheen, and absence of peristalsis.
- The non-viable portion indicated strangulated and gangrenous bowel.

Surgical Procedure

Given the Bowel Necrosis:

- Segmental resection of the gangrenous colon was performed.
- Because of severe cardiac dysfunction and contamination, primary anastomosis was considered unsafe.
- The surgical team opted for a Hartmann's procedure end colostomy with closure of the distal rectal stump.
- Hernia repair was intentionally deferred to minimize postoperative infection and undue operative stress.

The patient remained hemodynamically stable throughout the surgery under vigilant anesthetic monitoring.



Postoperative Care

The patient was transferred to the ICU for close observation.

Management included:

- Low flow oxygen therapy.
- Inotropic support to maintain adequate cardiac output.
- Restricted IV fluids.
- Continued antibiotics and analgesia.
- Respiratory physiotherapy.
- Early but cautious mobilization.

DISCUSSION

Typical inguinal hernias include structures that exhibit high mobility within the abdomen. By contrast, the descending colon and splenic flexure are anchored in the retro-peritoneum and rarely migrate enough to enter an inguinal sac. When this occurs, it is usually associated with:

- Excessively redundant or elongated colon.
- Congenital anomalies affecting peritoneal fixation.
- Chronic, longstanding hernias causing gradual stretching of anatomical supports.
- Increased intraabdominal pressure.

Rare Right Sided Herniation of Left Sided Colon

The presence of left colonic segments in a right inguinal hernia is extremely unusual. Excessive mobility of the splenic flexure or atypical mesocolic attachments can produce such an event.

Risk of Strangulation and Gangrene

Delayed presentation increases:

- Venous congestion.
- Arterial compromise.
- Ischemia.
- Progression to gangrene.

This patient's 5 day duration of symptoms significantly contributed to bowel necrosis.

Challenges Posed by Severe Cardiomyopathy

Operating on a patient with an EF of 20% is particularly risky due to:

- Poor tolerance to anesthetic drugs.
- Risk of perioperative arrhythmias.
- Difficulty maintaining fluid balance.
- Higher likelihood of postoperative decompensation.

A Hartmann's procedure was considered the safest option to minimize stress, contamination related sepsis, and postoperative anastomotic failure.

Deferring Hernia Repair

Because of local contamination from gangrenous bowel and the patient's hemodynamic vulnerability, it was prudent to postpone definitive hernia repair. A second stage repair can be considered once his cardiac status is better optimized.

CONCLUSION

This case describes an exceptionally rare event where the splenic flexure and descending colon herniated into a right inguinal sac, progressing to gangrene in a patient with severe cardiac dysfunction. Early recognition, prompt surgical intervention, and coordinated multidisciplinary management were essential in achieving a favorable outcome. This case highlights the need for individualized strategies when dealing with unusual hernia contents, particularly in patients with significant comorbidities. It also underscores the importance of early surgical evaluation for long standing hernias to prevent life threatening complications.

Declaration of Competing Interest

The authors declare no competing interest.

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