Case Report

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Incarcerated Amyand hernia: a rare entity

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ABSTRACT

Right sided inguinal hernia containing vermiform appendix in its sac is called as amyand's hernia. It accounts for $\sim 1\%$ of all inguinal hernias. It is an intra operative finding during an inguinal hernia repair. A 64 years old male patient came with complains of swelling in the right inguinal region, associated with pain and vomiting. On examination of the right inguinal region there was a tender irreducible swelling palpable. Based on the characteristic finding it was diagnosed clinically as right sided irreducible obstructed inguinal hernia. Ultrasound abdomen was done which was suggestive of right inguinal hernia with herniation of bowel and omentum with features of strangulated/ obstructed hernia. Patient was taken up for right inguinal hernia is rare. The attendant surgeon should be vigilant about the presence of it. Preoperative diagnosis of amyand's hernia is not common because in majority of cases objective of imaging is to exclude conditions that predispose to inguinal hernia formation. The Losanoff and Basson's criterion is used as a guide for deciding whether to perform appendectomy and type of repair, depend on the clinical scenario.

Keywords: Inguinal hernia, Strangulated hernia, Amyand's hernia, Appendix

INTRODUCTION

In 1735 an English surgeon Claudius Amyand successfully performed and showed a vermiform appendix in a 11 years old child who presented with a right-sided inguinal hernia. The presence of the vermiform appendix in a hernia sac was named as 'amyand's hernia'.¹⁻³

Amyand's hernia is a rare condition in which inguinal hernia sac has vermiform appendix as its content. Most commonly it is an intra-operative finding during an inguinal hernia repair on right-side side because of location of appendix.^{1,2}

Amyand's hernia accounts to $\sim 1\%$ of all inguinal hernias and are most often seen in male patients.

CASE REPORT

A 64 years old male reported to the emergency department with the history of swelling in the right inguinal region associated with pain and vomiting. The patient was a known chronic smoker and was on regular treatment for diabetes. Initially, the groin swelling was reducible manually, however for the last two days it was irreducible.

On general examination patient had tachycardia, blood pressure and urine output were normal. On per abdominal examination in the right inguinal region a tender irreducible swelling was palpable. Cough impulse was absent. On examination of scrotum: testis could be felt separately. Bowel sounds were not appreciated. It was diagnosed as a right sided irreducible obstructed inguinal hernia. Ultrasound abdomen showed evidence of a defect in the anterior abdominal wall in the right inguinal region measuring 2 cm in size with herniation of bowel and omentum. The herniated bowel loops showed edema with absent peristalsis and decreased vascularity and evidence of increased echogenicity of omentum-features suggestive of strangulated/ obstructed hernia.

Emergency surgery was planned. Intra-operatively, the hernial sac was found lateral to the inferior epigastric vessels and it was separated from the spermatic cord up to the deep inguinal ring (Figure 1). On opening the hernial sac, inflamed appendix with thickened mesoappendix and localized pus collection were seen. The pus was drained and sent for culture and sensitivity (Figure 2). Appendicectomy was performed. Posterior wall of inguinal canal was reinforced by doing a Bassini's repair using 2-0 proline. External oblique aponeurosis was closed using 2-0 vicryl. The postoperative period was uneventful. Culture report showed growth of E. Coli and based on culture report appropriate antibiotics was started. Patient was discharged on 5th post-operative day. The patient is doing well after 3 months of follow-up.



Figure 1: Irreducible hernial sac.



Figure 2: Appendix as content in hernial sac.

DISCUSSION

Amyand's hernia is a rare condition in which inguinal hernia sac has vermiform appendix as its content. Most commonly it is an intra-operative finding during an inguinal hernia repair on right-side.^{1,2} A hernia is defined as a protrusion of an organ or its fascia through the wall of its containing cavity. When an organ is contained within a non-reducible hernia, it is called incarcerated hernia. If the blood supply is compromised secondary to venous and lymphatic obstruction in an edematous, incarcerated bowel it results in strangulated hernia.³ Inguinal hernias typically contain bowel or omentum; a vermiform appendix can be found incidentally, within the hernia sac.³ The pathophysiology of amyand's hernia is not known, but the vermiform appendix is thought to herniate through a patent vaginal process. A fibrous band connecting the hernia sac and the testis has sometimes been found and possibly participates in the vermiform appendix's attraction and guidance.⁴ The appendix can be present in the hernia sac without symptoms throughout a patient's lifetime. Sometimes the neck of the hernia can strangulate the vermiform appendix and cause vascular obstruction, appendicitis, perforation, and peritonitis.⁴ Losanoff and Basson proposed a classification system for staging and management of amyand's hernia in the year 2007 (Table 1).5

Table 1: Losanoff and Basson classification of Amyand hernia.

Type of hernia	Status of inguinal hernia	Surgical management
Туре 1	Normal appendix	Reduction or appendectomy (depending on age), mesh hernioplasty
Type 2	Acute appendicitis with no abdominal sepsis	Appendectomy, primary no prosthetics hernia repair
Туре З	Acute appendicitis with abdominal and abdominal wall sepsis	Laparotomy, appendectomy, and primary no prosthetic hernia repair
Туре 4	Acute appendicitis with abdominal concomitant pathology	Laparotomy, appendectomy, primary no prosthetic hernia repair, and management of concomitant disease

Patient in this case study had a type-2 amyand's hernia and underwent a Bassini's repair without using mesh with appendectomy. Diagnosis of amyand's hernia is still an incidental intra operative finding and there is no knowledge on the optimal operative management approach. In the pediatric population, a prophylactic appendectomy would have been performed (without mesh repair), because there is a higher risk of acquiring acute appendicitis in children and adolescents.^{3,6} Computed tomography (CT) is the most commonly used imaging modality for evaluation of acute abdomen and abdominal hernias.⁷ But the inguinal hernias are diagnosed clinically. There are no unique presenting symptoms and signs in amyand's hernia, even when it is complicated, because of which imaging is commonly not ordered if it was diagnosed clinically. If at all imaging is ordered, it is more often to rule out a more serious pathology.

CONCLUSION

Although the occurrence of amyand's hernias is rare, the attendant surgeon should be vigilant about the presence of it. Pre-operative diagnosis of amyand's hernia is not common because in majority of cases objective of imaging is to exclude conditions that predispose to inguinal hernia formation. USG and MDCT are the useful modalities. The Losanoff and Basson's criterion is used as a guide for deciding whether to perform an appendectomy and type of repair, depend on the clinical scenario.

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