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Amyand's Hernia: An Unexpected Discovery In an inguinal Hernia Repair - A Rare entity

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Abstract:

Amyand's hernia is a rare type of inguinal hernia where the appendix is found within the hernia sac, occurring in approximately 1% of inguinal hernias[1]. This case report describes a 38-year-old male who underwent inguinal hernia repair, during which a non-inflamed appendix (7–8 cm) was found along with cecum. The cecum was successfully reduced back into the peritoneal cavity, an appendectomy was performed, and the hernia was repaired using mesh. This case highlights the importance of individualized surgical management in Amyand's hernia and discusses recent advancements in its treatment.

Introduction

Inguinal hernias account for 75% of all abdominal wall hernias, with a lifetime risk of 27% in males and 3% in females[2]. This higher incidence in males is due to anatomical differences, particularly the presence of the spermatic cord, which creates a weak point in the abdominal wall[2]. Amyand's hernia is a rare subtype of inguinal hernia, occurring in approximately 1% of all inguinal hernias, with appendicitis present in 0.08%–0.13% of cases[5]. Although more common in males due to the higher prevalence of inguinal hernias, cases have been reported in females. Most cases of Amyand's hernia are asymptomatic and discovered incidentally during surgery. Appendectomy is usually performed in a case of inflamed appendix being the content of the sac and preservation of the appendix and closure of the defect can be an option in a case of uncomplicated hernia (Amyand's hernia)[3,4]. The use of mesh in Amyand's hernia repair remains debated. Traditionally, mesh is avoided in contaminated cases to reduce infection risk[5].

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However, recent studies suggest that in cases of a non-inflamed appendix, mesh repair is safe and may lower recurrence rates[6]. We present one such case of Amyand's hernia where appendectomy was performed prophylactically along with mesh repair of posterior inguinal wall.

Case presentation:

A 38-year male presented with complaints of swelling in right groin for 2 years, On examination soft, reducible right inguinal swelling of 2*3 cm present in right inguinal region, pyriform in shape, there is no signs of strangulation, or bowel obstruction. Positive cough impulse present. On Ultrasound, Indirect inguinal hernia with suspected bowel loops; the appendix was not visualized. The plan was to explore the hernia sac and close the defect and reinforce the posterior layer with mesh. Under spinal anaesthesia, sac exploration was done which showed an appendix (7–8 cm) along with cecum within the hernia sac with no signs of inflammation, perforation, or acute appendicitis (legend 1,2). The cecum was partially herniated but was successfully reduced back into the peritoneal cavity after appendectomy. No contamination or pus was noted. Lichtenstein hernioplasty was performed (legend 3). Post-operative period was uneventful and the patient was discharged under satisfactory conditions.

Discussion

Amyand's hernia is a rare type of inguinal hernia containing the appendix with or without appendicitis. Diagnosis is often incidental during surgery, though imaging such as USG and CT can help in the preoperative identification. Losanoff & Basson in 2007 classified Amyand's hernia. [7] Type 1: Normal appendix in an inguinal hernia → Hernia repair ± appendectomy, Type 2: Appendicitis within the hernia sac → Appendectomy + primary hernia repair, Type 3: Perforated appendicitis → Appendectomy + careful hernia repair (avoid mesh), Type 4: Appendicitis with intra-abdominal pathology → Appendectomy + additional management. Hernia repair is performed using a mesh unless contamination is present. Laparoscopic hernia reduction with mesh repair is now preferred for non-inflamed cases, leading to faster recovery, decrease post operative pain and lower recurrence rates[8]. Laparoscopic appendectomy followed by primary tissue repair is recommended in cases of appendicitis without peritoneal contamination, preventing mesh infections[9]. Open appendectomy with thorough abdominal irrigation is advised for perforated cases, followed by delayed hernia repair to reduce infection risks[10]. This case represents Type- 1 Amyand's hernia, where the appendix was not inflamed and the decision to perform an appendectomy was made to avoid risk of future complications.

Conclusion:

Amyand's hernia is a rare entity and the presence of inflamed appendix adds complexity to its management. Though it often mimics an incarcerated inguinal hernia, its potential association with appendicitis necessitates surgical intervention. Early diagnosis through imaging and intraoperative findings is crucial in preventing further complications like perforation, abscess

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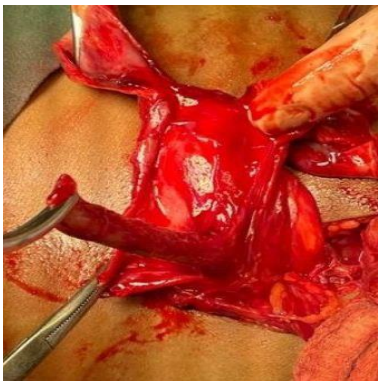
formation. The treatment depends on the condition of the appendix where appendectomy is performed in cases of inflammation and mesh hernioplasty not performed in contaminated fields. Recent advances in laparoscopic techniques and improved imaging have enhanced preoperative diagnosis and surgical decision-making. Awareness of these conditions helps in making appropriate surgical decisions which improves the patient outcome.

LEGENDS

Legend 1 : Intraoperative picture of right hernial sac



Legend 2: Intraoperative picture showing skeletonized appendix after adhesiolysis from the sac walls

Legend 3 : Intraoperative picture after mesh hernioplasty

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