Amyand's Hernia

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ABSTRACT

A 50 years old male underwent elective mesh repair surgery for a clinically diagnosed case of right inguinal hernia which was intraoperatively revealed to contain appendix in its sac. The appendix was then removed and standard mesh hernioplasty was performed. Post-operative period was uneventful. This case highlights the incidental nature of Amyand's hernia and reinforces the importance of considering anatomical variations during routine surgical procedures.

KEY WORDS

Amyand's, Appendix, Inguinal hernia

INTRODUCTION

An inguinal hernia involves a defect within the oblique and transversalis muscle layer of the abdominal wall through which protrusion of abdominal or extraperitoneal contents can occur.[1] It is the most common type of hernia with incidence showing a bimodal distribution – most prominent during early childhood and after the 5th decade of life.[2]

Amyand's hernia is a rare type of inguinal hernia that contains vermiform appendix within its sac. It accounts for 1% of all inguinal hernia and 0.1% of all appendicitis cases.[1-5] It is usually an incidental intraoperative finding that makes preoperative diagnosis extremely challenging but has been reported via trans-abdominal ultrasound or computed tomography.[3]

We report a case of an incidentally discovered Amyand's hernia during elective right inguinal hernia repair, underscoring the importance of surgical awareness and intraoperative decision-making.

CASE REPORT

Fifty years male with no comorbidities, with a positive history of tobacco consumption for 10 years presented to the general surgery OPD with a history of a pain in right inferior quadrant for one month which was insidious onset, intermittent, dull aching, radiating to right inguinal region with no known relieving or aggravating factors. It was associated with swelling in inguinal region that was initially noticed on strenuous activities but gradually progressed to being visible on standing and relieved on lying down. On physical examination, he had a non-tender lump in the right inguinal region of size 2x2 cm, with smooth surface, soft consistency, regular margin with no local rise in temperature and positive cough impulse. Contralateral side showed no abnormalities. It was diagnosed as right inguinal hernia; European classification PL2. Ultrasonography of inguinoscrotal region showed right inguinal hernia with defect measuring 10 mm containing omentum and bowel with intact vascularity. Mild reactive free fluid was noted within the hernial sac.

Elective Lichtenstein tension free mesh repair with prolene mesh was planned under spinal anesthesia. Pre-anesthetic checkup was done and patient was accepted for surgery. Surgery started with an incision over right inguinal region, abdomen was opened in layers; spermatic cord was identified and isolated; hernial sac was identified and dissected; sac was opened where the content was identified as appendix (Fig. 1) with no signs of inflammation. Base of appendix was transfixed, mesoappendix with sac wall was tied and appendectomy was done. The other contents were reduced and herniotomy was performed with transfixation of sac. Prolene was placed and fixed. Hemostasis was maintained and abdominal layers closed with skin stappled and sterile dressing was done. Postoperative period was uneventful and patient was discharged on second post operative day with advice for alternate day dressing of wound with stapler out on 10th post operative day. Regular follow up was advised and patient reported no complications in two weeks and one month post-surgery.

Figure 1. A right indirect inguinal hernia with appendix as its content.

DISCUSSION

The presence of a vermiform appendix within an inguinal hernia sac was first described by Claudius Amyand in 1735.[5]

Amyand's hernia accounts for between 0.4 and 1% of all inguinal hernias, and appendicitis in conjunction with Amyand's hernia accounts for 0.1% of all cases of appendicitis.[6,7] It is three times more common in pediatric population, due to the patency of the processus vaginalis.[8]

The exact pathophysiology of amyand's hernia is not well understood. It is hypothesized that the vermiform appendix herniates through a patent vaginal process.[9] The appendix can reside within the hernia sac asymptomatically throughout a patient's life. However, if the neck of the hernia constricts the appendix, it can lead to vascular obstruction, appendicitis, perforation, and peritonitis.

Classification[8]

Losanoff and Basson classified amyand's hernia as shown in table one. Singal et al. refer to the modification of the Losanoff and Basson classification of Amyand's hernia, also known as Rikki modification.[7] A fifth type of Amyand's hernia is added on the latter classification, referred as an incisional hernia through which the vermiform appendix protrudes. This type is divided into three subtypes, 5a, 5b and 5c as listed in table two.[8]

Table 1. Losanoff and Basson classification of Amyand Hernia.[8]

Classification	Description	Management
Type 1	Normal appendix	Mesh hernioplasty after reduction or appendectomy whichever appropriate
Type 2	Acute appendicitis localized in the sac	Appendectomy through hernia, endogenous repair
Type 3	Acute appendicitis with peritonitis	Appendectomy via laparotomy, endogenous repair
Type 4	Acute appendicitis with other abdominal pathology	Appendectomy, any procedure if indicated

Table 2. Rikki modification of Losanoff and Basson classification of amyand's hernia.[8]

Classification	Description	Management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh replacement
Type 2	Acute appendicitis in an inguinal hernia with no abdominal sepsis	Appendectomy, primary no prosthetics hernia repair
Type 3	Acute appendicitis in an inguinal hernia with peritoneal and/or abdominal wall sepsis	Laparotomy, appendectomy, and primary no prosthetic hernia repair
Type 4	Acute appendicitis in an inguinal hernia with abdominal concomitant pathology	Same as type 3 plus management of concomitant disease
Type 5a	Normal appendix within an incisional hernia	Hernia reduction, primary repair of hernia including mesh replacement
Type 5b	Acute appendicitis within an incisional hernia without peritonitis	Appendectomy through hernia, primary closure of the aponeurotic gap, no prosthetics hernia repair
Type 5c	Acue appendicitis within an incisional hernia with peritonitis or abdominal wall sepsis or in relation to previous surgery	Management as type 4

Our case was Nyhus type 2 and type 1 according to Losanoff and Basson classification of Amyand Hernia. We hence performed appendectomy with Lichtenstein tension free hernioplasty. Whether to remove or leave behind a normal appendix in this clinical scenario cannot be decided based on sound scientific data because no evidence-based information exists. The decision was rather based on common sense related to the age, life expectancy, and lifelong risk of developing acute appendicitis. In our case, appendectomy was performed in view of appendicitis in future and mesh repair was done in view of large hernial defect. However, this increases the risk of mesh infection as appendectomy is a clean contaminated surgery. Mesh repair in strangulated hernia has been studied and reported in the literature. It was found to be safe, but it requires long-term follow up and more evidence.[9]

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