

Case Report

Left Amyand's hernia with inflamed appendix and sealed of perforated caecum an unusual case

Reshma Bhalchandra Mohite*, Vishakha Iyer, Anant N. Beedkar, Sarojini Jadhav

Department of General Surgery, Government Medical College and Hospital, Aurangabad, Maharashtra, India

Received: 22 October 2021

Revised: 15 November 2021

Accepted: 17 November 2021

*Correspondence:

Reshma Bhalchandra Mohite,
E-mail: chiragmohite1996@gmail.com

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ABSTRACT

Amyand's hernia is defined as the hernia with appendix normal, inflamed or perforated as content. 1% of inguinal hernias are Amyand's and amongst them 0.1% contains inflamed appendix. Commonly encountered on right side due to anatomical position of appendix. Left Amyand's is rare and associated with intestinal malrotation, situs inversus and mobile caecum. Here, we presented an interesting case of left irreducible hernia in 70 years old gentleman with no signs of acute obstruction or strangulation, patient underwent emergency laparotomy in which hernial sac contents were inflamed ileal loop, inflamed appendix and perforated caecum in 70 years old man is rare presentation and not reported in any literature as per our knowledge. Resection of inflamed bowel loop with caecum done along with ileo ascending anastomosis with primary tissue repair done. Post-operative period was uneventful. Hernia sac contents are most of the time surprising and their management sometimes differ according to the content. Appendix in hernia sac is found in 1% of all hernia but lack of facility for the pre-operative diagnosis and varied presentation it is challenging to diagnose and operate accordingly.

Keywords: Left Amyand's hernia, Caecal perforation, Inflamed appendix

INTRODUCTION

Presence of vermiform appendix in the inguinal hernial sac found in about 1% cases of inguinal termed as Amyand's hernia out of which 0.1% cases have inflamed appendix. Claudius Amyand was a French-born English surgeon who in 1735 successfully performed and recorded the repair of an inguinal hernia in an 11-year-old patient. Contents of hernial sac of that boy were vermiform appendix. Since then hernia with vermiform appendix as content is termed as 'Amyand's hernia'.^{3,4}

According to previous study amongst all Amyand's hernia inflamed appendix found in 0.1 % cases.^{4,6} Incident of Amyand's hernia is 3 times higher in childrens than in adult population due to patent processus vaginalis.⁵ Apart from this most commonly Amyand's hernia occurred on right side because of two reasons, one normal anatomical

site of appendix and second right sided inguinal hernias are more common than left.

As occurrence of left sided Amyand's hernia is rare its association with situs inversus, intestinal malrotation or a mobile caecum is reported frequently. Pre-operative diagnosis with imaging like contrast enhanced computed tomography being gold standard for diagnosis of Amyand's hernia not only confirms the presence of appendix in hernia sac but also helps to confirm the associated possibilities of underlying anomalies.^{2,5,6}

The majority of the reported cases present with the features of an obstructed or strangulated inguinal hernia or with or without features of appendicitis.¹ Losanoff and Basson created a classification scale to identify and treat Amyand's hernias.^{4,11} But use of mesh to repair the defect is to be avoided in case of appendicitis or peritonitis.^{5,11}

CASE REPORT

A seventy years old farmer came in casualty with presenting complaints of irreducible swelling in left scrotum since one week which was reducible previously since 5 years and associated with dragging pain since 2 days patient was chronic bidi smoker with no co morbidities and vitally all system being within normal limits. Per abdomen was soft nontender with no signs of peritonitis. On digital rectal examination faecal stain present with no other abnormality. On local examination 10×10×15 cm swelling in left inguinoscrotal region with erythematous changes over left hemiscrotum with loss of normal rugosities over it. Mild tenderness was present with left testes palpable separately. Local ultrasound were suggested of normally peristaltic bowel loop with mild collection in hernia sac with multiple septation suggesting of uncomplicated left direct inguinal hernia with defect 14 mm in anterior abdominal. Bilateral testes and epididymis were normal with scrotal wall oedema present. all other investigations were within normal limits.

Patient planned for the emergency operative procedure due to irreducibility of hernia. And approached with left inguinal incision extended over upper scrotum in which intra operative findings was: (a) inflamed appendix; (b) inflamed ileal loops; (c) sealed off caecal perforation; and (d) thickened hernial sac with adhesion with scrotal wall. About 3×3 cm caecal perforation were present with perforated surface firmly adhered to the thickened hernial sac hence prevention contamination and peritonitis. Considering the need of ileo ascending anastomosis, midline laparotomy done, hernia defect closed with primary tissue repair. Post-operative period was uneventful. Post-operatively investigation done to search for the cause as intestinal malrotation, situs invertus or mobile caecum. As none of the investigation were suggesting intestinal malrotation or situs invertus, our retrospective cause if left sided Amyands hernia with mobile caecum. Histopathology report was suggestive of ulceroproliferative changes over caecum consistent with changes of perforation. Patient was discharged on post-operative day 10 and followed up for any complication.



Figure 1: Intra-operative evidence of inflamed ileal loop, inflamed appendix and perforated caecum.



Figure 2: Intra-operative evidence of 3×3 cm perforated caecum with necrotic changes around it.

DISCUSSION

Amyand's hernia is presence of appendix in hernia sac, more common on right due to anatomical position of appendix.^{1,2,5} More common in paediatric population as compare to adult. In adult population incidence of Amyand's hernia is about 0.6 to 0.8%. Left Amyand's hernia cases in adult are rarely present and reported in past.^{2,5}

Occurrence of inflamed appendix is 0.1%.¹ Amyand's hernia remains undiagnosed in pre-operative stage due to lac of proper investigation facility and low suspicion of the unusual content in hernia sac. Though the contrast enhanced CT is preferred for diagnosis of Amyand's hernia, ultrasonography can be one of the cheap and easily available mode of investigation.²

Amyand's hernias have varied presentation from just a swelling to the irreducible hernia, strangulation and incarceration, later being the most common presentation found in literature.¹ Suspicion of uncommon contents and basic knowledge about how to deal with it can prevent panic during operation.

Management of Amyand's hernia is mainly surgical and totally case dependent and depends on condition of appendix in the sac. It may get modified depending upon the associated contents any sliding component and general condition of the patient.

Deep et al quoted that midline exploration should be practiced to rule out underlying anomalies responsible for left Amyand's hernia except if have been already ruled out with preoperative contrast enterography or CECT.²

Yoneyama et al stated that in normal appendix in Amyand's hernia appendicectomy should be reconsidered due to increased chances of SSI, possibility of recurrence due to opening of hernia ring to trace base of the appendix, and non-availability of appendix as a source of urinary conduit (Mitrofanoff appendicovesicostomy), if the patient ever requires it.^{2,10}

Most importance measures affecting the line of management in Amyand's hernia is presence or absence of inflamed appendix. Lonsanoff and Basson classified Amyand's hernia depending on the inflammation and also formed a line of management according to type which is summarised in Table 1. In case of normal appendix in hernia sac all efforts are done to preserve the normal organ in view of its future use if needed and for uneventful post-operative stay though. In the presence of inflammation and necrosis transherniotomy with

appendicectomy is indicated.¹ but in cases of left sided Amyand's hernia appendicectomy is suggested in spite of normal appendix to prevent future misdiagnosis due to atypical presentation due to abnormal anatomical position. Mobile caecum, situs inversus and intestinal malrotation are the anomalies associated with left sided Amyand's hernia amongst which mobile hernia is most common occurrence and presence of intestinal malrotation is not reported yet in the literature.²

Table 1: Classification of Amyand's hernia with its management.¹¹

| Amyand's type | Clinical features | Surgical management |
|-----------------|--|--|
| Type I | Normal appendix | Reduction or appendectomy (choose based on patient demographics)+mesh hernioplasty |
| Type II | Acute appendicitis within the sac | Appendectomy through hernia |
| Type III | Acute appendicitis+peritonitis | Endogenous repair appendectomy through laparotomy |
| Type IV | Acute appendicitis+other abdominal pathology | Endogenous repair appendectomy+diagnostic workup for other pathology+additional procedures as needed |

CONCLUSION

Hernia surgery can be present a challenge to operating surgeon owing to the varied presentation to its contents there by requiring varied management modalities. Appendix with perforated caecum form an unusual content less frequently reported in literature, hence the operating surgeon need to be vigilant enough to diagnose this condition in relation for the lack of advanced pre-operative diagnostic modalities.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Mohite RB, Iyer V, Beedkar AN, Jadhav S. Left Amyand's hernia with inflamed appendix and sealed of perforated caecum an unusual case. Int Surg J 2021;8:3717-9.