CASE REPORT

Amyand’s hernia in a 5-year-old child: a case report and literature review

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Abstract

Amyand’s hernia in a child is a very rare entity. It poses a diagnostic challenge to the surgeon due to its variety of presentation. We are presenting a case of a 5-year-old child who presented to our institute with right-sided irreducible inguinal hernia. On exploration, the content of the hernia was caecum with normal appendix for which herniotomy with appendectomy was done.

INTRODUCTION

Amyand’s hernia is a rare type of inguinal hernia where the appendix is located within and/or incarcerated in the hernia sac [1]. Studies claim that Amyand’s hernia occurs in 1% of all inguinal hernias, and the presence of appendicitis within an Amyand’s hernia accounts for 0.1% of all appendicitis. Amyand’s hernia has been reported in patients ranging in age from 3 weeks to 92 years and is three times more likely to be diagnosed in children than in adults due to the patency of the processus vaginalis in the pediatric population [2]. Most reported cases of Amyand’s hernia have been seen in the right inguinal region [3]. Although common in an inguinal hernia, appendix has been reported to be found in incisional, obturator or umbilical hernias [4]. The incidence of perforated appendix incarcerated within an inguinal hernia is rare as well, at 0.1% of all cases of appendicitis [2]. Further, the mortality of Amyand’s hernia has been reported to range from 14 to 30% and was linked to peritoneal spread of sepsis [2]. When diagnosis remains unclear, surgery can be both diagnostic as well as therapeutic. Whether or not an appendectomy should be performed at the same time as the hernia repair is, however, still debatable [5].

CASE REPORT

A 5-year-old boy presented to our institute with the complaints of pain in the right groin for 2 days, which was acute in onset and mild to moderate in intensity. Pain was not associated with nausea and vomiting. On examination, it was found to be a case of right-sided irreducible inguinal hernia. On exploration, the content of the hernia was caecum with normal appendix for which herniotomy with appendectomy was done.
DISCUSSION

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. The patient was found to have the vermiform appendix in his hernia sac. Since then, the presence of the vermiform appendix in a hernia sac has been deemed an Amyand’s hernia [5, 6].

The difficulty in diagnosis may be due to considerable variation of symptoms that patients present with, depending on whether the appendix is normal, incarcerated or perforated.

The most common symptom on presentation is painful inguinal or inguinoscrotal swelling, while the history and examination usually point to an incarcerated hernia [3].

They may even sometimes present with incarceration or strangulation of the content complicated with acute inflammation leading to abscess formation, perforation, epididymitis, orchitis or necrotizing fasciitis [2, 3, 7].

Preoperative diagnosis of Amyand’s hernia is not straightforward and is generally an incidental finding during surgery. Abdominal exam, physical signs, lab results and imaging are not always helpful in making differential diagnosis [2].

There has always been a debate about what to do with the appendix besides repairing the hernia. Most of the literature states that the treatment of appendix depends upon the status of appendix in the sac.

Abu-Dalu and Urca have suggested that the appendix becomes more vulnerable to trauma in Amyand’s hernia and is ultimately retained by adhesions. Its blood supply may subsequently be cut off or significantly reduced, resulting in inflammation and bacterial overgrowth. The contraction of the abdominal muscles and other sudden increases in intra-abdominal pressure may cause the compression of the appendix, resulting in further inflammation and microtrauma. Secondary to this, fibrosis develops, and the appendix becomes adhered to the hernial sac [3].

According to Losanoff and Basson, Amyand’s hernias are categorized into four subtypes: (i) normal appendix within the inguinal hernia, (ii) hernia with inflamed appendicitis, (iii) hernia with perforation of the appendicitis and (iv) complications including abscess or malignancy [6].

In subtype 1, Losanoff and Basson suggest Amyand’s hernia may be managed with reduction or appendectomy. Subtypes 2–4, all with abnormalities of the appendix, require appendectomy and hernia repair. However, the final say shall reside upon the treating surgeon [8].

It has also been suggested that during the reduction of contents while repairing the hernia, there is a chance of minor trauma to appendix, which leads to inflammation of appendix. So, it is better that appendix be removed in all cases [3].

Likewise in our case, we took informed consent from the child’s parents and proceeded for appendectomy.

Due to the rarity of Amyand’s hernia and the wide variety of its presentation, each case study and review article sheds light into new and useful information regarding its treatment and diagnosis [2].

CONCLUSION

Owing to the rarity of the Amyand’s hernia and its variable presentation, the diagnosis of this hernia is mostly incidental. The choice of surgery depends upon the surgeon’s preference either to perform appendectomy with herniotomy or herniotomy alone in children.

CONFLICT OF INTEREST STATEMENT

None declared.

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