Case Report: a Rare Case of Amyand's Hernia Presenting in a 3-year-old Male Child

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Abstract The finding of the vermiform appendix in an inguinal hernia has an incidence of approximately 1 %. The condition is given the eponymous name “Amyand’s hernia.” However, in just 0.08 %, the condition is complicated by an acute appendicitis. The clinical presentation varies, depending on the extent of inflammation of the appendix, and is most often misdiagnosed as an incarcerated inguinal hernia. As such, it is rarely recognized prior to surgical exploration. We report a case of Amyand’s hernia in a 3-year-old child who presented as a right-sided congenital hernia with pain in the right groin. He underwent herniotomy, which revealed that the hernia sac containing elongated inflamed appendix appeared with some adhesions to sac, lying in the inguinal canal.

Keywords Amyand · Inguinoscrotal · Appendix · Herniotomy

Introduction

The presence of the vermiform appendix within an inguinal hernia was first described by Claudius Amyand in 1736. It has an incidence of 1 % and is complicated by acute appendicitis in 0.08 % of cases. We report a rare case of Amyand’s hernia occurring in a 3-year-old child who presented with a tender, right inguinal swelling.

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Case Report

A 3-year-old male child with mother presented to the surgical outpatient department of Swami Ramanand Teerth Rural Government Medical College, Ambajogai, India, with a 3-week history of a swelling in the right groin and tenderness to touch since 1 week. Presumptive diagnosis was of an incarcerated indirect congenital inguinal hernia. There were no bowel symptoms. Examinations revealed a tender swelling in the right groin. On abdominal examination, he was tender to palpation in the right groin. An X-ray of the abdomen showed no features of obstruction. Ultrasonography was suggestive of blind ending tubular structure in the right groin sac. He subsequently underwent a herniotomy for a presumptive diagnosis of congenital indirect incarcerated hernia.

Through a right groin skin crease, inguinal canal was opened. Hernia sac was identified and opened. The inflamed appendix was found in the hernia sac with some adhesions to sac (Fig. 1). A classic appendectomy and herniotomy was performed. Histopathology revealed an inflamed appendix with dilated serosal capillaries.

Discussion

In 1736, Claudius Amyand, surgeon to King George II, performed the first appendectomy, removing the appendix from the inguinal hernia sac of an 11-year-old boy [1]. Since then, it has been given the eponymous name “Amyand’s hernia.” Amyand’s hernia is a rarity, with the incidence of an uncomplicated appendix found in the inguinal canal being 1 %, while the finding of appendicitis in the inguinal canal is rarer again, with D’Alia reporting an incidence of just 0.08 % [2]. It is more common in men and is almost exclusively right sided, most likely due to the usual anatomical position of the appendix, although there have been

Fig. 1 Inflamed appendix in the right-sided hernia sac

reports of left-sided Amyand's hernia, and in such cases, there are usually an associated situs inversus, mobile cecum, or intestinal malrotation [3]. In a review of 18 cases, the median age was 42 years, with the oldest age noted in the literature being 89 years [4].

It is thought that the appendix of Amyand's hernia is more likely to become inflamed, compared to an anatomically normal appendix, given that it is retained in that location by adhesions and becomes vulnerable to trauma [5]. There is no consensus on whether appendicitis is the primary pathological mechanism, or the primary event is its herniation, making it more vulnerable to trauma, coupled with changes in abdominal pressure due to muscle contraction that compresses the appendix, thereby decreasing blood supply and encouraging bacterial overgrowth and inflammation [6].

Amyand's hernia is difficult to diagnose clinically and is rarely diagnosed preoperatively. In a review of 60 cases over a 12-year period, only one case was diagnosed preoperatively [7]. The difficulty in diagnosis has its origins in the considerable variation of symptoms that patients present with, depending on whether the appendix is normal, incarcerated, or perforated with the most common presenting symptom being painful inguinal or inguinoscrotal swelling, while the history and examination usually point to an incarcerated hernia [8]. Fever and leukocytosis are inconsistent findings. Preoperative computed tomography (CT) has revealed the previously unsuspected diagnosis in an occasional report and is useful in establishing the diagnosis early but is not routinely used in clinical situations where a complicated hernia is suspected. Laermans et al. illustrated

that combining CT with multi-planar reconstruction is the most useful technique, to better visualize the appendix and its relationship with surrounding structures, thus aiding in confidently making the correct diagnosis preoperatively [6].

Treatment of Amyand's hernia depends on the inflammatory state of the appendix. In an uncomplicated case, appendectomy is advocated followed by simple repair of the hernia using the same incision [9]. In the presence of contamination, there is an absolute contraindication to the use of synthetic mesh [4]. Laparoscopic reduction has also been described in the literature [10]. There was a general consensus by most authors that a normal appendix in the hernial sac does not require appendectomy, given that such an organ containing feces increases the risk of septic complications [9].

In conclusion, we report here a very rare case of a 3-year-old male child with Amyand's hernia, presenting as a swelling in the right groin with pain. It is difficult to diagnose clinically, and diagnosis can be aided by a high index of suspicion and accurate interpretation of a CT scan.

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