Amyand's Hernia: An incidental Diagnosis

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ABSTRACT

Inguinal hernia repair is commonplace in general surgery practice. Amyand's hernia is an extremely rare condition in which the appendix is positioned in the inguinal hernia sac. We report the intra-operative findings of a standard inguinal hernia repair and discuss the management of the Amyand's hernia.

Key words: Amyand's hernia, appendix, Claudius Amyand, inguinal hernia

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INTRODUCTION

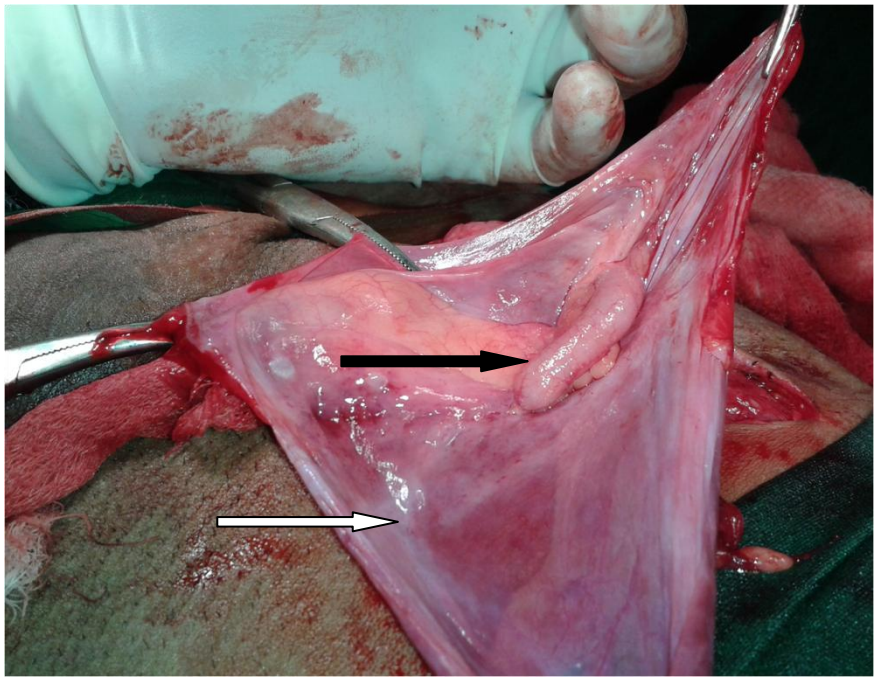
The presence of vermiform appendix, whether normal or inflamed in the inguinal hernia, is referred to as Amyand's hernia. This is rare occurring in about 1% of inguinal hernias in adults.(1)Claudius Amyand was a French born English Surgeon who in 1735 successfully performed and recorded the repair of 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' (2). We present a case in which an Amyand's hernia was discovered incidently in a patient with a right-sided inguinal hernia underwent elective hernia repair.

CASE REPORT

A 35 year old male admitted in surgical ward of Acharya Vinoba Bhave Rural Hospital with history of right groin swelling since 2 years which was asymptomatic .On physical examination, his abdomen was soft, non-tender And non-distended. An inguinal examination revealed right sided incomplete reducible, non tender, inguinal hernia . Laboratory data were within normal limits. Blood pressure was well controlled. The patient was scheduled for elective surgery. The oblique conventional incision between external and internal rings was used to achieve a better approach. Subcutaneous tissue through Scarpa's fascia was divided until aponeurotic fibers of the external oblique were visualized. After dividing the external oblique to the superficial inguinal ring, the contents of the inguinal canal were then circumscribed using blunt dissection. The hernia sac lateral to the inferior epigastric pedicle was dissected away from the spermatic cord to the deep inguinal ring. The sac was opened

illustrating the vermiform appendix. (fig.1) There were no inflammatory changes of the appendix. The sac contents were reduced into the peritoneal cavity. The hernia sac was excised and the sac was suture ligated.We performed a Lichtenstein Tension-Free Hernia Repair. The patient was discharged after suture removal on the 8th day. He returned to surgery OPD 1 month later with no complications and no recurrence.

Figure 1. Showing hernial sac (white arrow) and normal appendix (black arrow)



DISCUSSION

The contents of a hernial sac are rarely significant in an inguinal hernia, as the sac usually contains the omentum or small bowel. However, there can be surprising contents such as Meckel's diverticulum (Littre's hernia), portion of the circumference of the intestine (Richter's hernia), bladder (sliding hernia) or appendix (Amyand's hernia).(3, 4) This rare condition was named after the first surgeon to perform appendectomy, Claudius Amyand, an English surgeon of the 18th century who first described a case of acute appendicitis in a hernial sac in an 11-year-old child .(5) Most reported cases of Amyand's hernia have occurred in the right inguinal region and only a few reported cases have occurred in the left inguinal region (6, 7). The appendix has also been found in obturator, umbilical and incisional hernias(5) . Of inguinal hernias, only 0.1% has an inflamed appendix (8, 9). This is a result of either primary inflammation of the appendix causing edema of the internal inguinal ring or incarceration of a normal appendix by abdominal wall musculature (5).

The aetiology of Amyand's hernia is often questioned in literature.(6) A possible explanation could be that due to herniation, the appendix becomes more vulnerable to micro-traumatism. Following this, fibroses develops and the appendix gets adherent to the hernial sac. Muscle

contractions and changes in abdominal pressure may cause compression of the appendix, resulting in decreased blood supply and secondary bacterial inflammation.(4)

As in our patient, most Amyand's hernia's are discovered intra-operatively. Preoperative diagnosis in this unusual condition is difficult. Weber was the only surgeon who reported making the correct diagnosis preoperatively (6). Computed tomography scans may be useful in diagnosis, but are typically not performed routinely.(10)When scrotal involvement is suspected ultrasound is a low cost alternative without radiation (5).

There are no fixed principles for the management of Amyand's hernia. However there are some factors which may have impact on the outcome of patients who are operated for Amyand's hernia, these factors are age of the patient, anatomic condition of the tissue, whether appendix is inflamed or not and contamination of surgical field during operation.(9)Regardless of general principles, various case scenarios have to be considered. Losanoff and Basson created a classification scale to identify and treat Amyand's hernias (Table 1)(11, 12).

Table 1: Losanoff and Basson classification of Amyand's hernia

Classification	Description	Surgical management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh repair
Type 2	Acute appendicitis in an inguinal hernia, without abdominal sepsis	Appendectomy, primary repair of hernia without mesh
Type 3	Acute appendicitis in an inguinal hernia, with abdominal wall or peritoneal sepsis	Laparotomy,appendectomy, primary repair without mesh
Type 4	Acute appendicitis in an inguinal hernia, with abdominal pathology	Manage as Type 1–3, investigate pathology as needed

Our patient had a Type 1 Amyand's hernia and underwent a mesh repair without an appendectomy. In the pediatric population, however, a prophylactic appendectomy would have been performed (without mesh repair), because children and adolescents have a higher risk of acquiring acute appendicitis
(11, 12).

CONCLUSION

Amyand's hernia is a rare condition that has been frequently diagnosed accidentally during a hernioplasty, and especially an incarcerated inguinal hernia diagnosed in the emergency room. It is closely linked to peritoneal spread of the septic process and may be life-threatening, with an incidence of mortality varying between 14 and 30% (13-15); mortality risk is most likely associated with perforated appendix with or without periappendicular abscess formation, or even peritonitis. Awareness of this disease and its misleading clinical presentation is of utmost importance as most of these cases are diagnosed intraoperatively and this would likely result in more appropriate planning for surgical intervention.

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