

Case Report

LEFT-SIDED AMYAND HERNIA IN AN INFANT: IS NON-FIXATION OF CAECUM THE ETIOLOGICAL FACTOR

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ABSTRACT

Amyand's hernia is an inguinal hernia in which the hernia sac contains the appendix. This condition is very rare in children, especially in infants. We present herein an extremely rare case of left-sided Amyand hernia. The patient was an eleven month old male infant with features suggestive of left incarcerated inguinal hernia. On exploration, the inflamed appendix along with caecum was found to be lying within it, with adhesions to the sac. Caecum was mobile and fixation abnormality was evident in the form of non-fixation to the retroperitoneum, as caecum was reaching the bottom of the scrotum along with the vermiform appendix. Appendectomy was performed through the groin incision, caecum was reduced within the abdominal cavity and a herniotomy was performed. Mobile cecum, estimated to occur in 10-20% of population, is perhaps one of the main causes of Left-sided Amyand's hernia and this can also explain the pathophysiology of De Garengeot hernia.

Key Words: *Amyand's Hernia, Appendix, Caecum, Hypermobility, Left-sided, Non-fixation*

INTRODUCTION

Amyand's hernia is an inguinal hernia in which the hernia sac contains the vermiform appendix (Gupta *et al.*, 2005). This condition is extremely rare in children, especially in infants (Gupta *et al.*, 2005; Singh *et al.*, 2011). This hernia is named Amyand to honour Dr. Claudius Amyand, Sergeant Surgeon to King George II of England, who first described this phenomenon in 1735. The patient was an 11-year-old boy who presented with an enterocutaneous fistula due to the perforation of the appendix by a pin within an inguinal hernia sac.

The procedure lasted half an hour and involved an appendectomy with the primary repair of the hernia defect (Hutchinson, 1993). Because of its rarity, there is usually a delay in diagnosis of Amyand hernia. Tenderness, erythema, and inability to reduce contents of the sac are present, if incarcerated, otherwise, presentation is like that of any inguinal hernia (Singh *et al.*, 2011). Herein we report an extremely rare case of left-sided Amyand hernia. The patient was a 11-month-old male infant with features suggestive of left incarcerated inguinal hernia.

CASES

An eleven month old male, was presented to our emergency department with fever, vomiting, and aggravated inguinal swelling since 2 days. His vital were normal. In physical examination the left hemiscrotum was swollen, tender and irreducible. A diagnosis of left incarcerated inguinal hernia was made.

The laboratory values were within normal limit. We decided to subject the infant to surgery. Surgical exploration was performed initially through a left inguinal incision. After opening the hernia sac, the inflamed appendix along with cecum was found to be lying within it, with adhesions to the sac (Figure 1). The scrotum was explored after extending the incision to the upper part of the scrotum and the testicle showed no evidence of ischemia or significant inflammation.

The cecum freed of the flimsy adhesions to the sac, it was mobile and fixation abnormality (non-fixation to the retroperitoneum) was evident. Appendectomy was performed through the groin incision. Caecum was reduced within the abdominal cavity and a herniotomy was performed.

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DISCUSSION

A hernia is defined as an abnormal protrusion of a viscus through the walls of its containing cavity (Aydin, 2006). Inguinal hernia is one the most common condition encountered in infants. Inguinal hernial sac may contain the omentum or small bowel. Unusual and rare contents, such as the bladder, a Meckel's diverticulum (Littre hernia), or a portion of the wall of the intestine (Richter hernia) may be encountered (Aydin, 2006). The incidental and very rare finding of the appendix lying within an inguinal hernia, called Amyand hernia, first reported nearly 277 years ago, occurs in approximately 1% of the cases of inguinal hernia (Hutchinson, 1993). The appendix may be inflamed or perforated within an inguinal hernia, or simply non-inflamed (Logan and Nottingham, 2001). Only 0.1% of all cases of appendicitis present as Amyand hernia (Logan and Nottingham, 2001).

Right-sided Amyand hernia are more common than left-sided hernias because of the normal anatomical position of the appendix and also right-sided inguinal hernias are more common than left-sided hernias (Gupta *et al.*, 2005; Singh *et al.*, 2011). Amyand's hernia is more common in men. Left-sided Amyand's hernia is rare and has been reported with situs inversus, intestinal malrotation or a mobile cecum (Gupta *et al.*, 2005; Khan *et al.*, 2011; Sharma *et al.*, 2007). In our case the cecum was mobile and fixation abnormality was present. The cecum was not fixed to the retroperitoneum; it was reaching the bottom of the scrotum along with the vermiform appendix. Mobile cecum is defined as a failure of cecum, terminal ileum and ascending colon along with mesentery to fuse to posterior parietal peritoneal wall. This abnormal mobility of the cecum and ascending colon is estimated to occur in 10-20% of population (Lee *et al.*, 1996). Mobile cecum is perhaps one of the main causes of Left-sided Amyand's hernia and this can also explain the pathophysiology of De Garengot hernia which is presence of appendix in a femoral hernia (Powell, 1954).

Amyand's hernia usually mimics an obstructed or strangulated inguinal hernia. When appendicitis occurs in the hernia sac, it presents as acute scrotum with differential diagnosis of testicular inflammation or torsion. In case of perforation of the appendix within the sac, it may simulate perforation of the intestine within the hernia (Logan and Nottingham, 2001; Khan *et al.*, 2011; Sharma *et al.*, 2007). Most Amyand's hernias are therefore diagnosed intraoperatively, and preoperative diagnosis is very rare, although imaging with computed tomography (CT) scan can suggest the diagnosis (Luchs, 2000).



Figure 1: Per-operative picture showing inflamed appendix along with cecum lying within the indirect hernia sac (which has been opened).

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Management is surgical and it is based on the age of the patient and intraoperative findings. On exploration, if appendicitis with or without abdominal sepsis or perforated appendix is present, appendectomy is essential. Appendectomy is also preferred even if the appendix is normal in case of left-sided Amyand hernia as the cecum is mobile or the patient has situs inversus or intestinal malrotation to prevent diagnostic dilemma of appendicitis in future owing to its atypical clinical presentation and also as a part of Ladd's procedure. But if the appendix is normal in right-sided Amyand hernia of paediatric age group, appendectomy is not recommended because appendix is an organ which plays an important role in gastro intestinal immune system, its future use as a conduit for urinary diversion when the need arises and also to avoid contamination of a clean hernia repair wound (Gupta *et al.*, 2005; Khan *et al.*, 2011; Sharma *et al.*, 2007). Antibiotic therapy is given, in order to prevent complications.

In cases where the base of the appendix and cecum is accessible through the hernial sac, as in case of mobile cecum, appendectomy is easier. However, if cecum is not mobile enough, then trans-herniotomy appendectomy should be done. Finally, the use of a prosthetic mesh to repair Amyand's hernia is based on the amount of contamination of the surgical field and experience of the surgeon (Logan and Nottingham, 2001; Khan *et al.*, 2011; Sharma *et al.*, 2007).

Conclusion

Amyand hernia must be kept in mind when a patient presents with a complicated or non-complicated inguinal hernia. Left-sided Amyand hernia is extremely rare in infants. Knowledge of the management is equally important. Hernia repair and appendectomy are the treatment of choice, however if the appendix is normal in right-sided Amyand hernia, appendectomy is not recommended in paediatric age group. Antibiotic therapy is given, in order to prevent complications.

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