Amyand’s hernia as a sliding component of inguinal hernia: A case report

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ABSTRACT

Introduction: Amyand’s hernia is a type of sliding inguinal hernia where the vermiform appendix lies in the hernial sac. Case Report: We are presenting a case of a 43 years old man who presented with Amyand’s hernia with acute appendicitis for which Appendicectomy as well as Lichtenstein repair of the hernia was carried out with no postoperative complications. Conclusion: It is rare entity which is seen only in about 1% of inguinal hernias whereas the finding of appendicitis in the inguinal hernia is only 0.1%; and when it occurs it is often misdiagnosed as a strangulated inguinal hernia. Claudius Amyand was the first one to perform performed such surgery in 1735. Appendicitis within an Amyand's hernia is rare. It is usually misdiagnosed as strangulated inguinal hernia which also represents a surgical emergency.

Keywords: Amyand’s hernia, Sliding hernia, Inguinal hernia, Appendicitis

INTRODUCTION

Claudius Amyand (1680-1740) was surgeon to George II and principal surgeon to the St. George's and the Westminster hospitals of London. His role in surgical history is secured because he performed the first recorded successful appendectomy by Hanvill Anderson; 11-year-old boy with a perforated appendix within an inguinal hernia sac in 1735. Amyand reported the case to the Royal Society and it was published in their Philosophical Transactions [2]. An uninfamed appendix within an inguinal hernia is estimated to be found in approximately 1% of adult inguinal hernia repairs [4,8]. The finding of appendicitis in the inguinal hernia is further rare. D’Alia observed once (0, 08%) in 1,341 inguinal hernia operations [4,11] while Ryan 9 in 1937 reported only 11 cases of appendicitis out of 8,692 (0, 13%) external hernia sacs.

CASE REPORT

We present a case of a 43 years old gentleman, who presented to the accident and emergency department, with four days of progressively increasing dull acheing pain in a longstanding non complicated right inguinal hernia for which he was awaiting elective hernia repair. His past medical history was irrelevant, general examination was unremarkable. Vital signs were normal apart of mild tachycardia (92bpm), abdominal examination revealed mild right iliac fossa tenderness with negative Rebound as well as Rovsing signs, groin
examination revealed severely tender irreducible right inguinal hernia, his laboratory investigations were all within normal range except CRP which was raised (160 mg/L). Abdominal X-ray did not show any signs of obstruction, our provisional diagnosis was incarcerated inguinal hernia so the patient was consented and booked for groin exploration and hernia repair. Intra-operatively, the sac of an indirect inguinal hernia was identified, surprisingly enough a mildly inflamed appendix was found in the sac, for which appendicectomy was carried out. Lichtenstein repair of the hernia was also carried out, the histopathological examination confirmed acute appendicitis.

The patient passed through a smooth post operative period and was discharged from the hospital the following day, seen in the clinic in three weeks time with no notable complications.

DISCUSSION

The credit for performing first appendectomy goes to Claudius Amyand. He successfully performed appendectomy and repair the hernia on 6th of December, 1735 [1]. He took approximately half an hour to complete the surgery and after completion of operation, he commented that Tis easy to conceive that this operation was as painful to the patient as laborious to me. This operation was not only the first to describe hernia containing vermiform appendix but also one of earliest documented appendectomy in the literature. The term Amyand hernia refers to presence of appendix within inguinal hernia. Hernia is abnormal protrusion of a viscus or part of a viscus through a normal or abnormal opening, from the cavity which contains it. The common contents are either omentum or intestine. Unusual contents may be encountered, such as Meckel’s diverticulum (Littre’s hernia), or a portion of circumference of intestine (Richter’s hernia). The presence of appendix with in femoral hernia sac is referred as De Garengeot hernia. The pathophysiology of Amyand’s hernia is unknown. The relationship between incarceration and inflammation of appendix is not yet clarified. Weber et al raised the question of why the appendix in Amyand’s hernia becomes inflamed. The inflammatory swelling may lead to incarceration and subsequent impaired blood supply and bacterial overgrowth. Abu-Dalu and Urca support the scenario in which as soon as the appendix enters the sac it becomes vulnerable to trauma and is ultimately retained there by adhesions. Its blood supply may subsequently be cut off or significantly reduced resulting in inflammation and bacterial overgrowth. Contraction of the abdominal muscles and other sudden increases in intra-abdominal pressure may cause compression of the appendix resulting in further inflammation. Pre-operative diagnosis of Amyand hernia is difficult. Because of anatomical location Amyand hernia is almost always on the right side. However, extensive literature search revealed 8 cases of left sided Amyand hernia. There are four conditions responsible for left sided Amyand hernia: situs inversus, mobile caecum, malrotation of intestine, and excessively long appendix.

Amyand’s hernia is rarely diagnosed preoperatively and requires awareness of the disease process by the clinician in combination with the physical findings of a tender hernia without radiological or clinical evidence of obstruction. The clinical presentation is very similar to that of a strangulated inguinal hernia with local peritonitis. In many cases the prodrom signs could be typical of appendicitis with epigastric or periumbilical pain localizing to the right lower quadrant or to hernia sac. Several authors suggest that the pain of strangulated appendicitis tends to be episodic and crampy instead of a constant dull ache usually seen in strangulated bowel. Acute appendicitis in hernia sac is often misdiagnosed as either testicular torsion or epididymo orchitis. Leucocytosis and fever are not constant findings.

Ultrasound often demonstrates a potentially inflammatory mass within the hernial sac. CT scan is a very powerful technique to establish early diagnosis, which is very important considering the high risk of perforation. Diagnosis is made by demonstration of an inguinal herniation containing a blind-ending tubular structure with thickened walls, in connection to the caecum. However, CT is not routinely used in such cases. It remains integral to preoperative diagnosis. The American College of Radiology recommends the use of non-ionizing radiation techniques for front-line imaging in pregnant women. MPR is most useful in order to better visualize the appendix and demonstrating its relationship with surrounding structures. It aids in confidently making the right diagnosis pre-operatively, enabling the surgeon to successfully combine both appendectomy and hernia repair.

There is no standard protocol for the management of Amyand’s hernia. Factors such as the presence of an inflamed appendix, contamination of the surgical field, patient age and anatomic features of the tissue are important determinants for appropriate surgery. The appropriate approach is pre-peritoneal for access to both abdomen and inguinal regions Normal appendix can be returned back to peritoneal cavity, or alternatively appendicectomy can be performed as in this case. Hernioplasty (mesh repair) without appendicectomy is the favoured option in patients with a normal appendix. However, in cases of appendicitis, a trans-hernotomy appendectomy should be performed followed by herniorrhaphy (sutured repair).The presence of pus or perforation is an absolute contraindication to hernioplasty. However, laparotomy in cases of symptoms harbors peritonitis or problems of releasing the appendix incarcerated in the deep inguinal ring, have been performed. Laparoscopic treatment has been proposed but synthetic mesh is not advisable. Mortality rate varies from 14-30% and septic complications are commonest. Other complications are pneumonia, epididymitis, and urinary retention.

CONCLUSION

To conclude appendicitis within an Amyand’s hernia is rare, and when it occurs it is usually misdiagnosed as
strangulated inguinal hernia which also represents a surgical emergency. The proper treatment should involve appendectomy through the herniotomy with primary hernia repair without the use of any synthetic mesh.

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Guarantor
The corresponding author is the guarantor of submission.

Conflict of Interest
Authors declare no conflict of interest.

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REFERENCES


