Medical Case Reports Journal

journal homepage: https://mcrj.edwiserinternational.com

Case Report

A Rare Combination of Right-sided Richter's and Amyand's Hernia

Amir Obeid[*]*, Wisam Abboud, Sa'd Sayida*

Department of General Surgery, The EMMS Nazareth Hospital, Nazareth.

ARTICLE INFO

Received 29 July 2023
Revised 02 November 2023
Available Online 15 Nov 2023

*Corresponding author:
Dr. Amir Camil Obeid; Department of General Surgery, The EMMS Nazareth Hospital, Nazareth.
.

ABSTRACT

Amyand hernia is a rare form of hernia which is defined by an inguinal hernia containing the appendix. The appendix may or may not be inflamed and in some cases may be incarcerated. Another type of hernia is Richter hernia which occurs when only a portion of the circumference of the bowel is entrapped within a hernia sac. Although having a hernia is one of the most common encounters seen in the surgical field, having the combination of Amyand's and Richter's hernia is rarely encountered. We report the rare finding of both types of hernia as well as the finding of a lymph node within the hernial sac in an asymptomatic patient who was presented to the outpatient clinic for routine check-up.

Keywords: *Amyand's hernia; Richter's hernia; Inguinal hernia; Appendix.*

Introduction

Amyand hernia is a rare form of hernia which is defined by an inguinal hernia containing the appendix. The appendix may or may not be inflamed and in some cases may be incarcerated. Another type of hernia is Richter hernia which occurs when only a portion of the circumference of the bowel is entrapped within a hernia sac. Although having a hernia is one of the most common encounters seen in the surgical field, having the combination of Amyand's and Richter's hernia is rarely encountered. We report the rare finding of both types of hernia as well as the finding of a lymph node within the hernial sac in an asymptomatic patient who presented to the outpatient clinic for routine check-up.

Case Presentation

A male in his 50's with a medical history of smoking, controlled diabetes type 2, hyperlipidemia and a previous surgical history of bilateral inguinal hernia repair reported to the outpatient clinic for a surgical consult due to swelling of the right inguinal region. One year prior, the patient presented to the outpatient clinic due to suspected lymph node enlargement in the right inguinal region. Imaging studies were carried out including an US which revealed an enlarged lymph node approximately 1.8 centimeters (cm) in size and associated inguinal hernia of omental fat and small intestine without signs of strangulation as seen in (Figure 1). The patient then underwent further diagnostic evaluation which included a computed tomography which presented an inguinal hernia containing three anatomical structures (lymph node, a portion of the small intestine and a normal appearing appendix). The patient was non-compliant and didn't continue surgical follow-up as planned. According to the clinical findings and previous radiological results differential diagnosis concluded of irreducible inguinal hernia/incarceration and enlarged lymph node. Due to the aforementioned differential diagnosis the patient

was referred to the emergency department for further investigations. An US was carried out in the ER department and concluded that the groin mass was an incarcerated hernial sac containing small bowel contents, the appendix with free fluid and a 1 cm lymph node. Due the clinical radiological findings the patient was admitted to the surgical department for emergent

surgical intervention. Diagnostic laparoscopy revealed right sided inguinal hernia containing the appendix and anterior wall of the terminal ileum. The structures were attached in the hernial sac and were unable to be reduced into the abdominal cavity. While reduction of the sac was performed a partial tear was made of the appendix.

The surgery was laparoscopically performed at first but to due multiple adhesions to the hernial sac as seen in (Figure 2), the surgery was converted to an open approach. Surgical findings included a right hernial sac containing an inflamed and partial tear of the appendix, part of the small bowel including the terminal ileum and a large lymph node were identified. The laparotomy included a midline incision in which the appendix was surgically removed followed by a right sided inguinal hernia repair with mesh through an inguinal incision. The surgery was concluded without any complications. The patient was discharged on the second post operative day without any complaints.

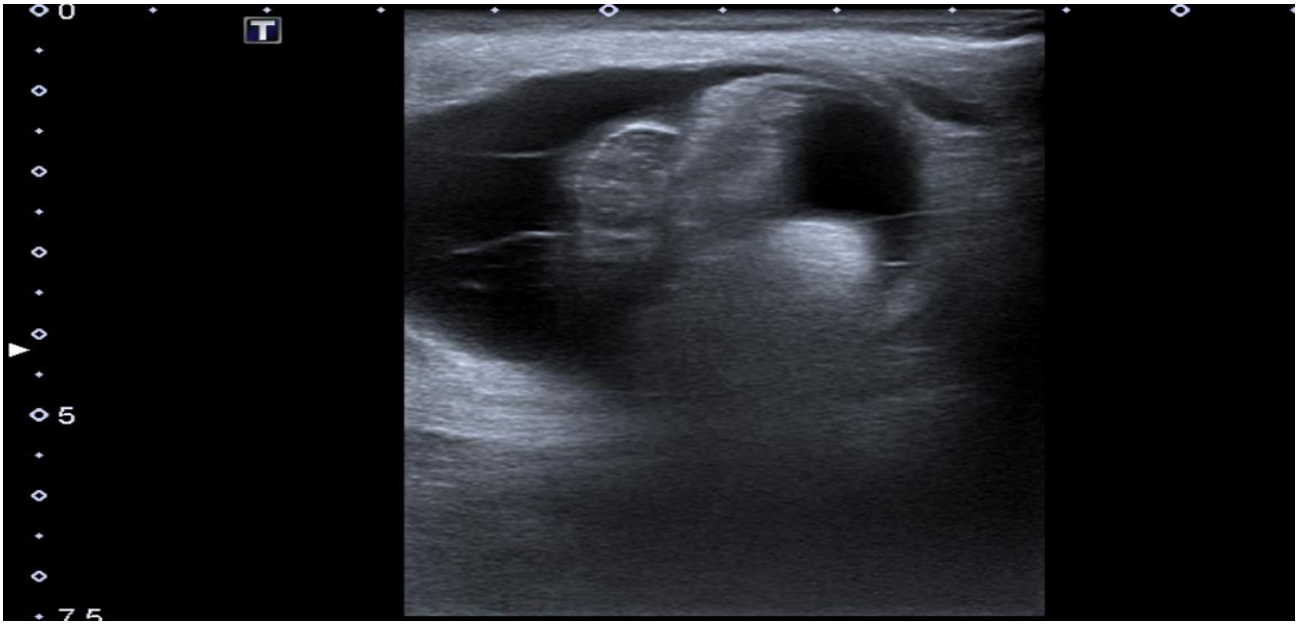

Figure 1: Ultrasonographic imaging showing the inguinal hernia and its contents (Lymph node, omental fat and a portion of small intestine)

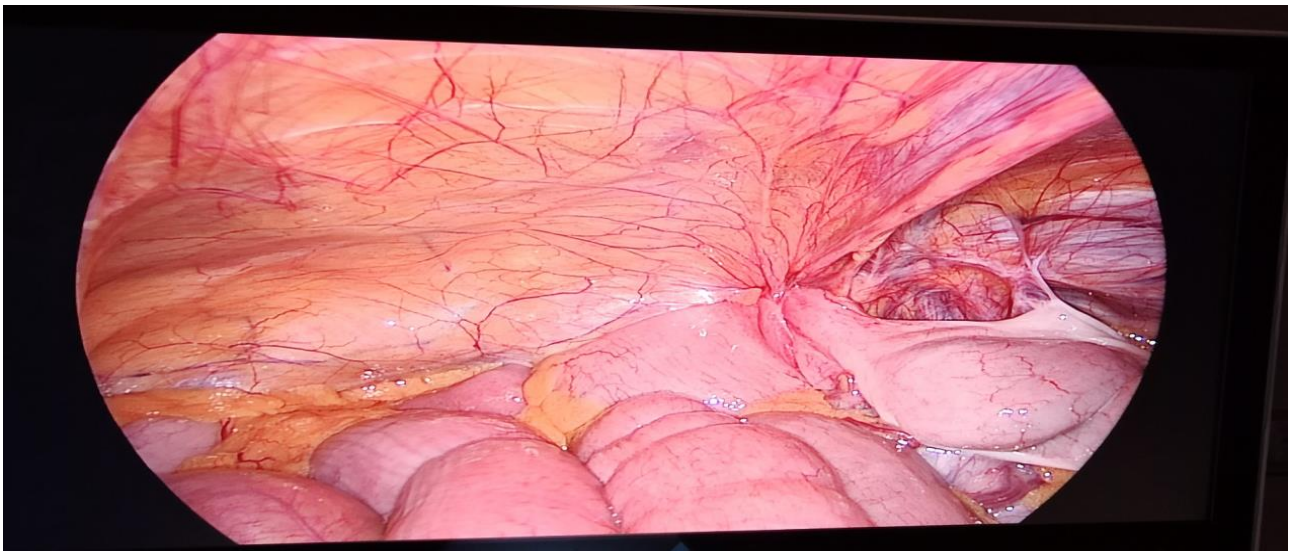

Figure 2: Laparoscopic image demonstrating the location of the hernial sac.

Discussion

An inguinal hernia is one the most common encounters in the surgical field. Inguinal hernia occurs when there is an anatomical defect of the fascial plain of the oblique and transversalis muscles that causes herniation of intraabdominal or extraperitoneal organs [1]. Herniations of the abdominal wall as described by Jenkins JT et al have a prevalence of 1.7% for all age groups and 4% for people above age 45 years [2]. There are various types of hernia and the content of the hernial sac can differ based on their location and type. Amyand hernia which is an inguinal hernia containing the appendix accounts for only 1% of hernias and in some cases the appendix may be healthy, inflamed or perforated. Amyand hernia was first described by British surgeon Claudius Amyand in 1736 who was the surgeon to King George II. He first discovered this type of hernia in an 11-year-old child who presented with a perforated appendix in the hernial sac who later underwent an appendectomy [3,4]. Mortality rate of Amyand's hernia ranges from 14-30% depending on the incidence of associated hernial appendicitis and spread of sepsis [5]. The diagnosis of hernias can be made by carrying out a proper physical examination. Radiologic diagnosis of hernias includes ultrasonography, computed tomography (CT) or magnetic resonance imaging (MRI). CT is usually an essential imaging modality when the diagnosis is indeterminate. CT has a sensitivity of 80% and specificity of 65% as described by Hammoud M et al [1, 6].

Both types of hernias require proper clinical evaluation and surgical approach in order to repair the anatomical defect. Proper surgical approach was described by Losanoff et al. for managing Amyand hernia. Type I is a normal appendix: perform reduction or appendectomy with mesh hernioplasty. Type II is acute appendicitis localized in a hernial sac: perform appendectomy through hernia, with mesh hernia repair; associated with higher risk of mesh infection. Type III is acute appendicitis complicated by peritonitis: perform appendectomy through laparotomy; hernioplasty decision should be made based upon the spread of sepsis. Type IV is acute appendicitis accompanied by other abnormal pathology: hernioplasty may be contraindicated if damage is too extensive [7].

Surgical treatment of an Amyand hernia may be performed either by open or a laparoscopically depending on the clinical state and surgeon preference. Till this day it is unclear whether an appendectomy should be performed on a normal appearing appendix. Another rare variation is Richter's hernia which occurs when a portion of the bowel protrudes through a fascial defect and may become strangulated. Richter's hernia is usually seen in in patients ranging from 60-80 years of age. The most common site of Richter hernia is the femoral canal (36-88%) followed by the inguinal canal (12-36%) and abdominal wall incisional hernias (4-25%). Strangulation halts blood supply the portion of the intestine in most cases leads to segmental ischemia and necrosis [6,8]. Many clinical factors are taken into consideration prior to surgical approach ranging from hemodynamic instability, strangulation or ischemia. Based upon the clinical findings surgical intervention may be an open hernial repair or a laparoscopic hernial repair. Although prompt surgical repair of Richter hernia in many cases is always carried out there have been cases in which enterocutaneous fistulas become present. As most hernias there is always risk of reoccurrence particularly 11% in Richter hernia [6].

Patient Consent Declaration

Authors hereby declare that they have obtained patient consent.

Conflict of Interest

None.

Funding

None to declare.

References

1. Hammoud M, Gerken J. Inguinal Hernia. [Updated 2020 Sep 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-.
2. Jenkins JT, O'Dwyer PJ. Inguinal hernias. BMJ. 2008;336(7638):269-272.
3. Johari HG, Paydar S, Davani SZ, Eskandari S, Johari MG. Left-sided Amyand hernia. Ann Saudi Med. 2009;29(4):321-322. doi:10.4103/0256-4947.55305
4. Tayade MB, Bakhshi GD, Borisa AD, et al. A rare combination of left sided Amyand's and Richter's hernia. Bombay Hospital Journal. 2008;50:644–5.
5. Ivanschuk G, Cesmebasi A, Sorenson EP, Blaak C, Loukas M, Tubbs SR. Amyand's hernia: a review. Med Sci Monit. 2014;20:140-146. Published 2014 Jan 28.
6. Regelsberger-Alvarez CM, Pfeifer C. Richter Hernia. [Updated 2020 Mar 29]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-.
7. Yagnik VD. Amyand hernia with appendicitis. Clin Pract. 2011;1(2):e24. Published 2011 Apr 22.

8. Skandalakis PN, Zoras O, Skandalakis JE, Mirilas P. Richter hernia: surgical anatomy and technique of repair. Am Surg. 2006 Feb;72(2):180-4. PMID: 16536253.