International Journal of Innovative Research in Medical Science (IJIRMS)
Volume 08, Issue 07, July 2023,
https://doi.org/10.23958/ijirms/vol08-i07/1700

Original article

A Vermiform Appendix Herniation Presenting in an Inguinal Hernia: A Case Report from Saudi Arabia

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Received 13 June 2023; Accepted 05 July 2023; Published 08 July 2023

Abstract

We present a case of a 20-year-old Saudi male, who presented to the emergency room because of swelling in the right inguinal area for 3 days after getting upper respiratory tract infection, US was done in the ER and showed uncomplicated right inguinal hernia. The patient was referred to General surgery clinic. Vital signs on the clinic were normal. Abdominal examination revealed soft and lax with right reducible inguinal hernia. Preoperative laboratory test came out within the normal ranges. A routine open right inguinal hernia repair with mesh was done, incidental finding of tubular structure inferio-lateral to the hernia sac and adherent to it was identified, diagnostic laparoscopy was done which showed appendix protruding through the internal inguinal ring and laparoscopic appendectomy done. Histopathology of the hernia sac and content was appendix consistent with Amynda's hernia

Keywords: ***appendix, Amynda's hernia, appendix herniation, inguinal hernia, AH***

Introduction

Amyand hernia (AH) is a form of an inguinal hernia in which one can find the cecal appendix inside the hernia sac; whether it is inflamed or not [1,2]. This is an extremely rare condition and estimated to occur in approximately 1% of adult inguinal hernia cases [3]. Most AH patients are diagnosed intra-operatively while still being asymptomatic. A high suspicion and imaging index is crucial. The primary management modality is surgery. We describe a case of an operationally treated Amyand's hernia that occurred in our tertiary health care facility.

Case report

A 20-year-old male presented to our surgical department clinic for the first time as referral from ER with complaint of right inguinal swelling that increase with coughing. Such swelling was for present since childhood with no pain, nausea, vomiting, or constipation. He was conscious, coherent, afebrile and ambulatory with vital signs in the clinic revealed an oral temperature of T: 36.6, heart rate of HR: 73 bpm, respiratory rate of RR: 19 per minute, BP of 120/75, and SPO2: 98%, normal body mass index (BMI= 22 kg/m^2). Abdominal examination revealed soft and lax abdomen with no tenderness, right reducible inguinal hernia, other hernia orifices were intact. The patient reported unremarkable past medical and surgical history, family history and psychosocial history.

Prior to surgery diagnostic and laboratory examinations were done including Ultrasound. The hematological workup results were within normal limits. With a WBC count of 5.8 mg/dl, hemoglobin of 17.3, platelet of 275, all urea and electrolyte results were within normal limit.

Intervention

A Preoperative diagnosis of right inguinal hernia was made and confirmed by physical examination and Ultrasound inguinal which showed the findings of right fat containing hernia with a neck measures 1 cm. there was no left inguinal hernia. (**Image 1&2**)

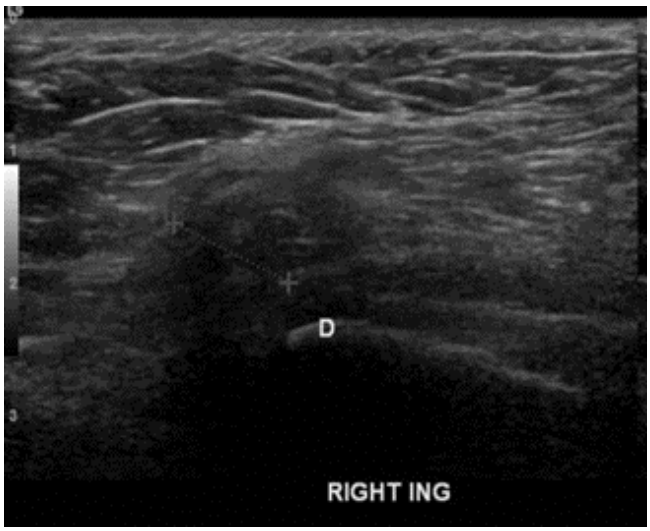

Image 1: Ultrasonography image showing a defect on the right inguinal side

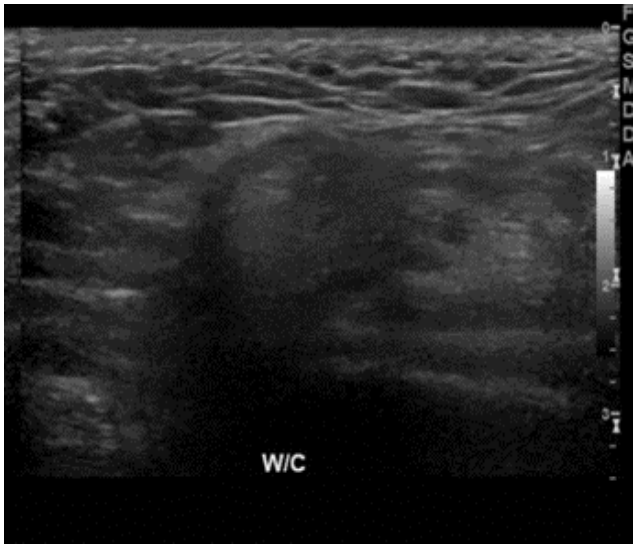

Image 2: Ultrasonography image showing right inguinal side hernia

Then the patient was planned for elective open right inguinal hernia repair with mesh, 2 grams of Cefazolin was given as prophylactic antibiotic, Anesthesia was under General anesthesia, the patient was placed on supine position, we started by right oblique inguinal incision, The indirect hernia sac was identified within the cord and dissected off the cord, a tubular structure was found protruding from the internal inguinal ring, inferio-lateral to the hernia sac and adherent to it. It was examined and was found to be healthy and reduced. We suspected that it could be the appendix, we completed the surgery and the sac was transfixed and divided, the mesh was applied and fixed with PDS and clips, and homeostasis maintained, fascia sutured and skin closed by clips. Then pressure dressing was applied. and then we went for diagnostic laparoscopy we inserted 3 ports, 5 mm port infra-umbilical, 5mm port in Supra-pubic area, and 12mm in left iliac fossa. Exploration of the abdomen was done which showed Appendix that noticed going into on the right Inguinal canal (**Image 3,4**), appendix reduced, mesoappendix dissected and appendectomy was carried out, Hernia sac and it is appendix were sent to histopathology which came out in favor of Amynda's hernia (**Image 5**)

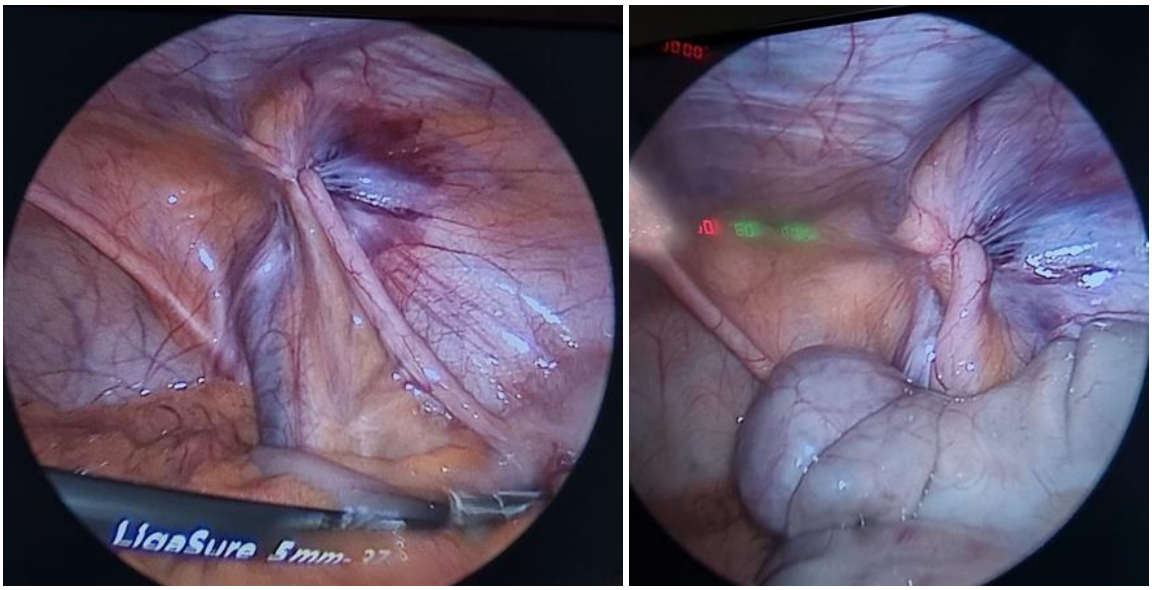

Image 3-4: Intra operative pictures showing the appendix visualized inside the inguinal canal

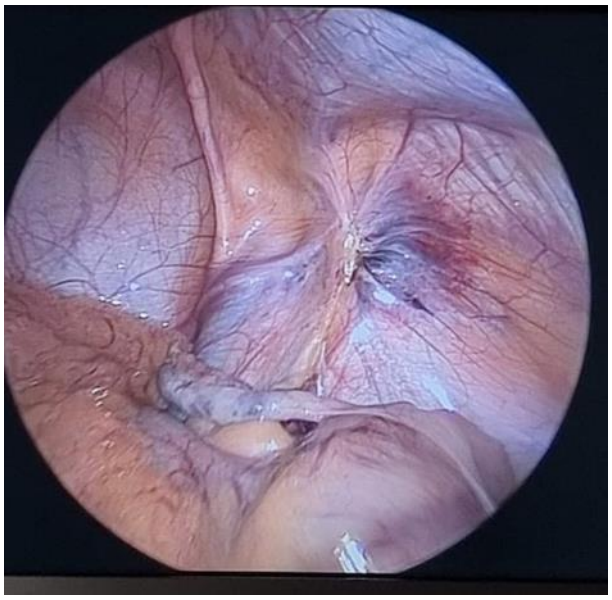

Image 5: Intra operative pictures showing the appendix after reduction

The postoperative period was uneventful. The patient was discharged in a good condition and was on Cefruxime 500 BD for ten days. He was asked to follow up in the clinic after a week and when he came back, he was doing well, with no complain and the wound was clean and dry. Histopathology of the benign fibrofatty tissue with mesothelial lining representing hernia sac and content

was appendix with no significant pathological changes consistent with Amynda's hernia

Discussion

Our case adds to the growing body of evidence that Amyand hernia is most commonly reported in males, and almost always on the right side [4-6]. Right-sided Amyand's hernias are more common on the right side due to the anatomical position of the appendix [7]. Amyand's hernias on the left side are extremely uncommon. As we did in our case, Prophylactic appendectomy with simultaneous hernioplasty is performed to prevent future complications that could progress to appendicitis [8]. The decision to retain or remove the appendix is based on the individual's age, endurance, and the risks of developing acute appendicitis. In comparison to middle-aged or elderly men and women, youthful people have a much higher risk of developing acute appendicitis.

Imaging studies are rarely requested to diagnose inguinal hernias, and the diagnosis is mainly based on clinical examination, particularly in completely reducible uncomplicated cases. Ultrasound can identify vermiform appendix within the hernia sac [9]. In complicated instances, a computed tomography (CT) scan with contrast is more specific and sensitive than an ultrasound [10]. All of this can help guide the pre-operative diagnosis; however, the ultimate management is done during the operation.

The best management strategy for Amyand's hernia is debatable. The open surgery approach is the mainstay of treatment of AH, and this is what we did with this case. However, in recent years, the laparoscopy approach has been summing cases, providing benefits such as shorter hospital stay, faster recovery, and less postoperative pain, among others [11]. While many authors do not advocate mesh repair in cases of acute appendicitis and appendectomy, others believe it is safe and may decrease the rate of recurrence of inguinal hernia even in the presence of a septic environment [12].

Conclusion

Amyand's hernia is an uncommon condition that manifests differently in each individual. The diagnosis is extremely challenging due to the uncomplicated presentations seen in the majority of these patients. Management modalities are contentious, with numerous plausible and rationally recognized pros and cons that steer the strategy toward one surgical modality over another. In the clinical context of an incarcerated complicated or strangulated inguinal hernia, imaging studies should be considered first; US or CT can guide the surgical plan and allow for the identification of involved intra-abdominal organs. We presented a case of 20 years old male with Amyands hernia that was found incidentally intraoperatively, managed through open right inguinal hernia repair with mesh and laparoscopic appendectomy. High suspicion is the key in such cases.

Ethics approval and consent to participant:

Not applicable

Conflict of interest

The author declares that there is no conflict of interest regarding the publication of this paper

Funding statement

No funding was received

Author Contribution

Ayed Almutairi: Review the whole paper
Shoag Albugami: Review the whole paper, writing manuscript, collecting the data
Fatmah Alrawaji: Review the whole paper

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