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Amyand's Hernia a Vermiform Appendix with in Inguinal Hernia: a Rare Entity

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Abstract: Amyand's hernia term given to a rare condition of founding an appendix either normal or inflamed as a content in an inguinal hernia named after the surgeon who has reported firstly this interesting entity Claudius amyand back in 1735 Amyand's hernia patients usually comes as inguinal hernia with features of strangulation and therefore majority of cases are misdiagnosed and Amyand's hernia is mostly diagnosed on operation theater table in fact only few cases has been reported in literature . The management of this rare entity is still debatable and varies patients to patients depending on operative finding and co-morbidity. A 35 year old gentle man presented with a painful swelling in right inguinal region from last 2 days. Surgical exploration was performed under spinal anesthesia. We opened swollen hernia sac and we found the inflamed vermiform appendix. Appendectomy and high ligation of hernia sac was performed. The chances of an individual to suffer from acute appendicitis is about 8 % in his life and that of non-inflamed appendix in inguinal hernia is about 1%. Management of Amyand's hernia is a challenge due to mimicking other condition sign and symptoms and due to lack of definitive preoperative diagnostic imaging module. We concludes that Amyand's hernia is a rare entity and is a diagnostic challenge for radiologist, can be proved fatal in presence of abdominal sepsis , CT scan can be proved a mile stone in diagnosis and management is still a point of debate.
Keywords: Amyand's hernia, diagnostic imaging module

INTRODUCTION

Amyand's hernia term given to a rare condition of founding an appendix either normal or inflamed as a content in an inguinal hernia named after the surgeon who has reported firstly this interesting entity Claudius amyand back in 1735 [1]. He has performed surgery on 11 year boy with complaints of fecal fistula between the scrotum and the thigh. Amynand hernia mostly occurs in right side [2] due to natural anatomical position of the appendix, but rarely can occur on left side in a condition known as Situs inversus, malrotation of the intestine, and mobile caecum [3]. Amyand's hernia patients usually comes as inguinal hernia with features of strangulation and therefore majority of cases are misdiagnosed and Amyand's hernia is mostly diagnosed on operation theater table in fact only few cases has been reported in literature [4]. The management of this rare entity is still debatable and varies patients to patients depending on operative finding and co-morbidity. Lasanoff and Basson classify Amyand's hernia and its management into four distinct type which is widely acceptable. In type 1 normal appendix is present in inguinal canal and managed by simple hernia repair with mesh placement and appendectomy unless contraindicated. In type 2 appendix is inflamed but there are no signs of peritonitis and abdominal sepsis and this is managed by Appendectomy through herniotomy with primary repair of hernia with Bassini or Should ice technique and no mesh placed. There is co-exiting abdominal sepsis and peritonitis in type 3, a laparotomy, appendectomy and peritoneal lavage and subsequent hernia repair without mesh is indicated. And in type 4, there is some other abdominal pathology exists simultaneously, laparotomy in terms of identification and treatment of this pathology should be performed. Appendectomy and hernia repair without mesh should follow [5] in this report we have reported a case of type 2 Amyand's

hernia that is appendix in right side inguinal hernia which was also inflamed.

CASE PRESENTATION

A 35 year old gentle man presented with a painful swelling in right inguinal region from last 2 days. Patient has history of right inguinal swelling from last one year which was reducible by lying down. At present swelling was become irreducible and painful from last one day. Pain was severe and increasing. The patient was anorexic, but had no complaints of vomiting, diarrhea or dysuria and constipation. On admission the patient was febrile (101 fehrnite) with a painful non-reducible mass in the right inguinal region. There was a marked tenderness in right lower abdomen on palpation and right hemiscrotum was moderately swollen and tender on palpation. Plain abdominal x-ray showed no fluid-air levels. White blood cells were elevated. Surgical exploration was performed under spinal anesthesia. Inguinal canal is opened through inguinoscrotal approach. Through swollen cremaster muscle hernia sac was identified. Dividing cremaster muscle we opened swollen hernia sac and we found the inflamed vermiform appendix. Serous purulent exudates in hernia sac were aspirated. Appendectomy and high ligation of hernia sac was performed. The wound was primary closed, without drainage. Antibiotics (ceftriaxone 1000 mg and metrogyl 400 mg) twice a day for two days intravenously were administered. For postoperative analgesia Diclofenac transdermal patches were used. Patient had uneventful postoperative course.

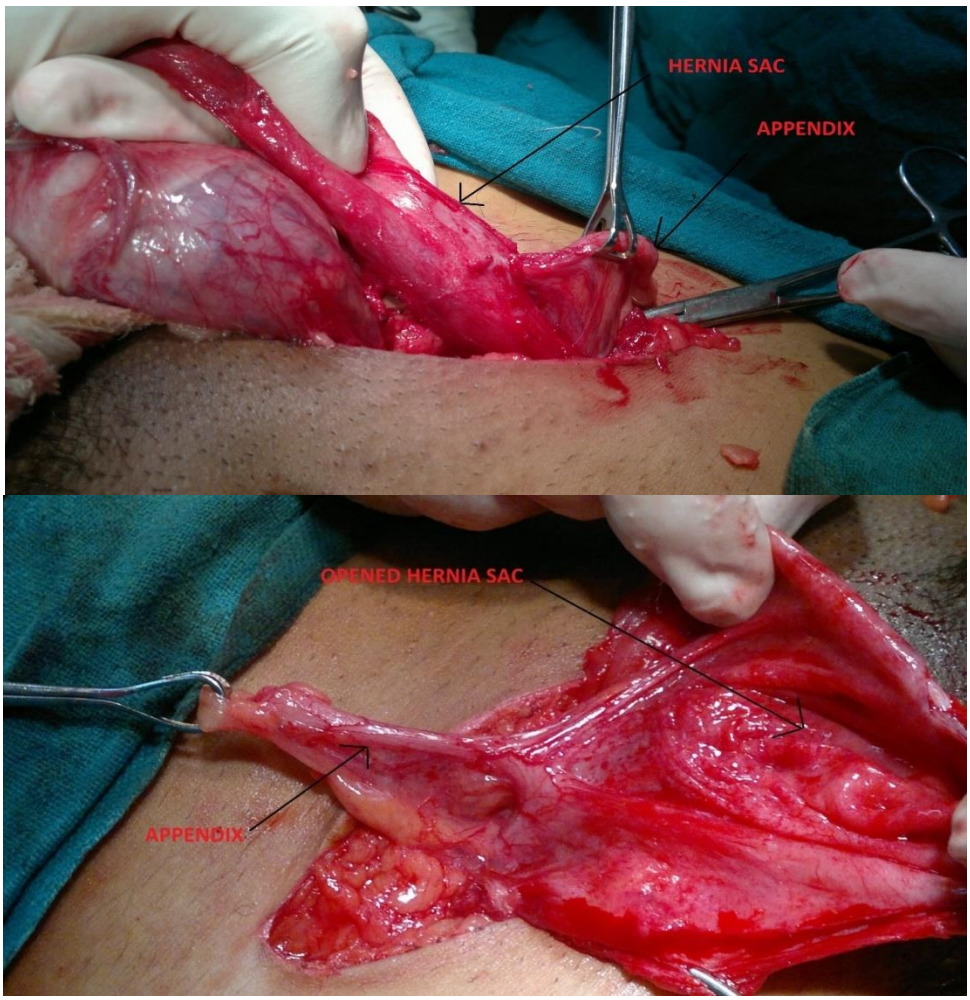

Fig-Intraop appendix with in inguinal hernia sac.

DISCUSSION

The chance of an individual to suffer from acute appendicitis is about 8 % [1] in his life and that of non-inflamed appendix in inguinal hernia is about 1%. The incidence of Amyand's hernia or perforated appendix within in inguinal hernia according to various studies is much lower that is 0.13% and 1% respectively [6, 7]. Children's are more prone to have Amyand's hernia as compare to an adult due to patent processes vaginalis [8]. The factors like reduction in blood supply of the appendix due to adhesions with sac wall which may also can result in on reducibility and compression of external ring are the causes of inflammation in appendix leading to appendicitis within hernia sac [1]. An Amyand's hernia barely diagnosed preoperatively. some studies show that computerized

tomography [9] can detect it but due to emergency presentation of patients like of strangulated or incarcerated hernia it's not used usually and patient is taken up for surgery. The differential diagnosis may include strangulated hernia, Richter's hernia, omentocele, inguinal lymphadenitis, orchitis epididymitis' and hemorrhagic testicular tumor [10]. In 2003 D. Alia *et al.;* performed 1341 inguinal hernias and reported only 0.6% incidence of Amyand's hernia. They also showed it occurs on right side and found exclusively in males. He reported mortality of 14-30% mainly due to peritonitis [2]. Therefore preoperatively diagnosis of Amyand's condition can reduces this mortality [11]. Management of Amyand's hernia is a challenge due to mimicking other condition sign and symptoms and due to lack of definitive preoperative diagnostic imaging module. Amyand's hernia mostly diagnosed intraoperative [11]. Lasanoff *et al.;* has given a classification and according to its management of Amyand's hernia. In type 1 there is normal appendix in hernia sac treated by mesh hernia repair and appendectomy, type 2 inflamed appendix in hernia sac treated by appendectomy and hernia repair without mesh, type 3 appendicitis complicated with peritonitis, emergency laparotomy with appendectomy with hernia repair without mesh done and last type 4 acute appendicitis with or without abdominal pathology; manage as type I to III, treat abdominal pathology [5]. Mllachi *et al.;* [12] recommends hernia repair with mesh placement but without appendectomy, if appendix is normal and in case of appendicitis laparoscopic appendectomy followed by open hernia repair. According to Hutchinson appendectomy is not indicated in healthy appendix as it may lead to contaminating with fecal matter in otherwise clean field [13].

FUTURE EXPECT

As discussed above Amyand's hernia is a diagnostic challenge preoperatively but CT scan can help in preoperative diagnosis [14] and with the aid of CT scan in the era of laparoscopy appendectomy with hernia repair can be done. Vermillion et al.; [14] has done laparoscopic appendectomy for Amyand's hernia with appendicitis that is type 2. Laparoscopic repair has also been described in pediatric age group. [15, 16] Rehman *et al.;* reported that laparoscopic surgery is feasible for Amyand's hernia repair even in an 8 weeks old infant [16].

CONCLUSION

In the end we concludes that Amyand's hernia is a rare entity and is a diagnostic challenge for radiologist, can be proved fatal in presence of abdominal sepsis , CT scan can be proved a mile stone in diagnosis and management is still a point of debate.

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