



Anterior Abdominal Wall Abscess in a patient with Acute Suppurative Appendicitis

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Abstract

Acute appendicitis is full of complications particularly appendiceal rupture, appendicular lump, phlegmon and pelvic abscess. Appendicocutaneous fistula as a complication has also been reported. Diagnostic techniques like ultrasonography, broad spectrum antibiotics and early surgery has decreased the incidence of these complications. However patient may report late for diagnosis and treatment. These patients may present with complications. A rare and unusual case of acute suppurative appendicitis presenting as anterior abdominal wall abscess is reported.

Keywords: Anterior abdominal wall abscess, Appendicitis, Complications of appendicitis.

Introduction

Acute suppurative appendicitis is well known for complications like appendiceal abscess, pelvic abscess but anterior abdominal wall abscess is uncommon. In pre antibiotic era these complication of acute suppurative appendicitis were common. The first case in literature was reported by Garipey and Kenley in 1945 in which a patient of acute suppurative appendicitis presented with anterior abdominal wall abscess subsequent rupture and fistula formation^[1]. Actinomycosis, tuberculosis, amebiasis and carcinoma of caecum are also known for formation of abscess in right iliac fossa but presentation of these diseases as anterior abdominal wall abscess is also rare [2][3][4]. We present a case of acute suppurative appendicitis

presenting as anterior abdominal wall abscess in right iliac fossa.

Case Summary

A thirty five years male presented with history pain in right iliac fossa for 6 days and an inflammatory swelling of about 7x10 cms in size in right iliac fossa for last 6 days. He was febrile for last 3 days. On examination the swelling was irreducible red inflamed and tender; and arising from the anterior abdominal wall (FIG 1). Ultrasonography reported anterior abdominal wall abscess, presence of acute appendicitis and appendicular mass. Haematological investigation revealed increased total leucocyte count of 15000/cmm with increased neutrophils. The viral markers of HIV, Hepatitis B and Hepatitis C were

negative. The clinical diagnosis of acute appendicitis with mass and anterior abdominal wall was kept. The patient was operated under general anaesthesia. Exploratory laparotomy was done through midline incision which revealed presence of omentum forming a mass and adherent to anterior abdominal wall beneath the abscess (FIG 2). On separating the omentum from mass it was containing about 30 ml of pus and has eroded the anterior abdominal wall forming an abscess. The appendix was ligated at base and removed. A tube drain was placed in abdominal cavity directed towards pelvis (FIG 3). Through a separate incision the anterior abdominal wall abscess was drained containing about 100 ml of pus. This abscess cavity was separately drained (FIG 4). There was a small opening connecting it to the appendicular phlegmon. So the final operative diagnosis was perforated appendix with appendicular mass and anterior abdominal wall abscess. The postoperative period was uneventful requiring seven days of indoor admission. On gross examination the appendix was swollen and inflamed with a perforation in middle of appendix. The pus culture from anterior abdominal wall abscess revealed bacteria *E Coli*. Histopathology confirmed diagnosis of acute suppurative appendicitis. The post operative period was uneventful.



FIG 1. Anterior Abdominal wall abscess

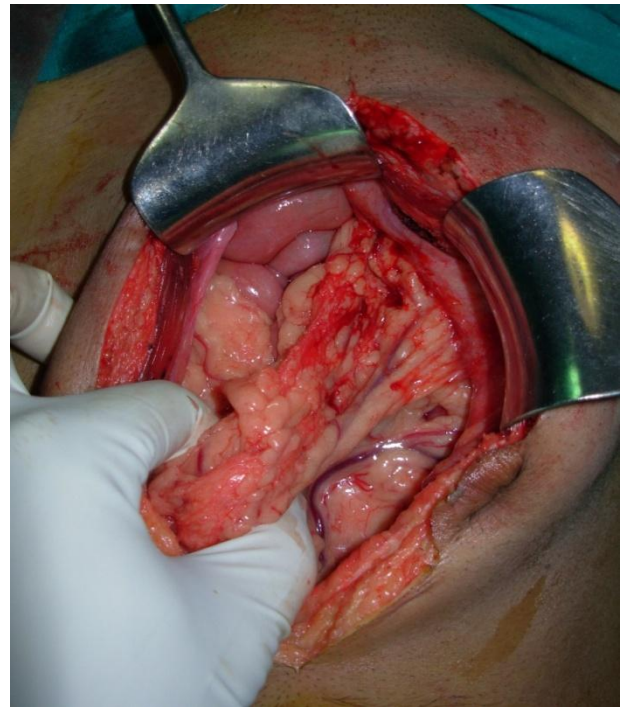


FIG 2. Omentum forming Appendicular Mass

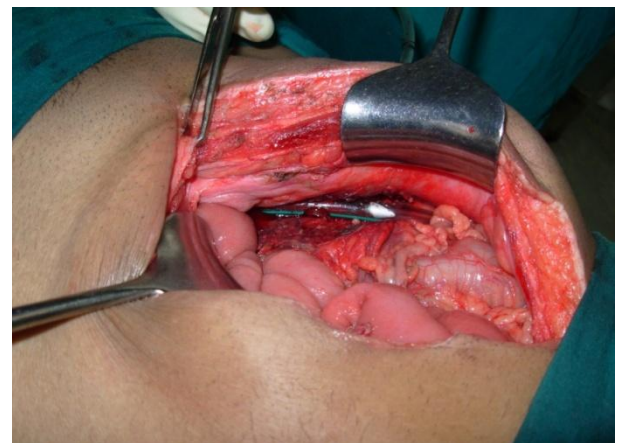


FIG 3. Drain in Right iliac fossa after appendicectomy



FIG 4. Drainage of anterior abdominal wall abscess by separate incision

Discussion

Acute appendicitis is well known for complications. The pathological process of lymphoid inflammation is variable. This process can vary from mild inflammation to severe suppurative appendicitis with perforation. The appendicular mass and phlegmon are the result of localization process by omentum, intestinal coils and peritoneum. The overlying peritoneum gets inflamed. Through this inflamed peritoneum, infected fluid comes into anterior abdominal wall muscles. The diapiesis of bacteria into layers of the anterior abdominal wall causes colonization of bacteria resulting in development of a nidus for abscess formation. The tension of pus in the anterior abdominal wall abscess keeps on rising and ultimately it ruptures to discharge its contents. This can result in formation of appendicocutaneous fistula. Localized intra abdominal abscess on right side of abdomen and pelvis are common due appendicular perforation. This condition was thought to be result of peritoneal reaction in response to inflamed appendix leading to extension of appendiceal abscess into adjacent abdominal wall.

Gockel et al reported a rare case of appendicocutaneous fistula due perforation of appendix with perityphilitic abscess formation. In analogy to empyema necessitatis which penetrates chest wall, they named this entity as appendicitis necessitates.^[5] Bulus et al reported another appendicocutaneous fistula as very rare complication of acute appendicitis.^[6] Mohamed et al reported a geriatric patient presenting as anterior abdominal wall abscess and described it as atypical presentation of appendicitis. They said that diagnosis of appendicitis is difficult to establish. There is high rate of perforation in geriatric patients requiring a lengthy surgery with increased morbidity and mortality.^[7]

Other inflammatory process of gall bladder has also been reported to form cholecysto-cutaneous fistula.^[8] Similarly acute perforated diverticulitis of sigmoid colon is also known to present as anterior abdominal wall abscess.^[9] The

inflammatory pathologies in abdominal hollow viscera are known to have inflammation, suppuration, abscess and fistula formation but intra abdominal abscess formation are common than parietal wall abscess. The chronic inflammatory like actinomycosis, crohn's disease and tuberculosis are known to cause anterior abdominal wall abscess and fistula formation and must be considered in differential diagnosis.^[10] Another rare presentation of acute perforated appendicitis as necrotizing fasciitis has also been reported.^[11] Infected rectus muscle haematoma which occurs due to inferior epigastric artery tear will also present as anterior abdominal wall abscess.^[12] Many patients present with appendicular mass, perforation and abscess because they seek late advice for treatment.^[13] The early diagnosis acute appendicitis and its complications by ultrasonography, effective antibiotics and immediate surgical intervention have reduced the complication rate.^[14] This may be the reason that only a few cases have been reported with anterior abdominal wall abscess associated with acute appendicitis in last few decades. In this case report the clinical history and findings, increased leucocyte count and ultrasound findings confirmed diagnosis of acute appendicitis. The immediate operative decision was taken and findings confirmed the clinical diagnosis of acute appendicular phlegmon forming anterior wall abscess.

Conclusion

The anterior abdominal wall abscess is a rare presentation of inflammatory process like appendicitis, cholecystitis and diverticulitis, Crohn's disease and carcinoma of transverse colon. Extension of these inflammatory processes must be considered in differential diagnosis. Late presentation by patients can lead to perforation of appendix, appendicular phlegmon and its extension to anterior abdominal wall as abscess. Early clinical suspicion and confirmation by ultrasound or CT scan can lead to early surgical intervention and avoid morbidity.

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