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Actinomycosis with Meckel's Diverticulitis in Adult: Case Report of a Rare Histopathology in a Rare Presentation

Muhaned Alhassan*, Ahmed Abdulhameed, Ayman Barghash, Ahmed Abass, Hatim Dhiyab, Alaa Osman

Department of General Surgery, General Surgeon, Sohar Hospital, Oman

***Corresponding author:** Muhaned Alhassan, Department of General Surgery, General Surgeon, Suhar Hospital, Oman, Tel: + 96879401419; E- mail: alaamuha2016@hotmail.com

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Abstract

Introduction: Meckel's diverticulum, a true congenital diverticulum, is found in 2% of the population, is located about 2 feet from the ileocecal valve, and often is no more than 2 inches in length. Fifty percent of these cases contain ectopic tissue most commonly gastric and pancreatic. Two percent of patients are symptomatic, most often presented by the age of 2 years. Actinomycosis is a localized inflammatory mass, usually of the jaw area. The most common site of involvement in the oral cavity and cervicofacial area 50%-60% followed by thoracic 15%-25% and abdominal involvement 20%. Abdominal infection most frequently involves cecal area (usually following appendectomy), Appendix and left colon flexure.

Case Presentation: A 60 years old male patient came to the hospital with lower abdominal pain, fever, constipation, nausea, and vomiting for duration of 3 days. On clinical Examination a generalized tenderness with the maximum area on right iliac fossa with guarding and rebound. Laboratory workup showed WBCS: (18,000) with neutrophilia, CRP: (340), renal and liver function test were normal. CT abdomen showed pneumoperitoneum with suspected omental abscess and pelvic collection, underlying malignant process cannot be excluded. Exploratory laparotomy finding was Meckel diverticulitis with a perforation at the tip and surrounded phlegmons of momentum and segment of the terminal ileum. The result of histopathology revealed, Meckel diverticulitis with intestinal mucosal tissue containing actinomycosis with no evidence of malignancy.

Conclusion: Although Meckel's diverticulitis is a rare entity especially in adult populations, it can appear as an acute abdomen. An early diagnosis and treatment to prevent subsequent complications are essential to ensure an optimal recovery. Clinical picture, complications, and surgical incision are the same in appendicitis and Meckel's diverticulitis patients.

Keywords: Meckel's diverticulum; Actinomycosis

Introduction

Meckel's diverticulum is a true congenital diverticulum found in 2% of the population and located about 2 feet from the ileocecal valve, and often is no more than 2 inches in length. There is a 3:2 male-to-female prevalence ratio. Meckel's diverticulum is localized at the antimesenteric border of the terminal ileum in the axis and continuity of the superior mesenteric artery. Fifty percent of these cases contain ectopic tissue most commonly gastric and pancreatic. Two percent of patients are symptomatic, most often presenting by the age of 2 years [1].

Actinomycosis is a localized inflammatory mass, usually of the jaw area. The most common site of involvement is oral cavity and cervicofacial area 50%-60% followed by thoracic 15%-25% and abdominal involvement 20% [2]. Abdominal infection most frequently involves cecal area (usually following appendectomy), Appendix and left colon flexure [3].

Case Report

A 60 year old male patient presented to the hospital with lower abdominal pain, fever, constipation for 3 days duration. The pain mainly in the right iliac fossa and suprapubic area, colicky in nature increased in severity, not resolved with medicine and not aggravated by food. This was associated with nausea and vomiting for last two days, three to four times per day, non-bilious and proceeded by nausea. No diarrhea and no other symptoms related to gastrointestinal tract or other systems. The patients gave a history of recurrent attacks of lower abdominal pain on and off over the last three months localized mainly to right iliac fossa and suprapubic area. No chronic illness and no other co morbidities.

On clinical Examination the patient looks ill, dehydrated with tachycardia (120 m), BP (90/70) and temperature of 38.9°C. Abdominal examination showed generalized tenderness with maximum area on right iliac fossa with guarding and rebound. Laboratory workup showed WBCS: (18,000) with neutrophilia, CRP: (340), renal and liver function test were normal. CT abdomen

showed pneumoperitoneum with suspected omental abscess and pelvic collection, underlying malignant process cannot be excluded (**Figures 1 and 2**). Exploratory laparotomy finding was Meckel diverticulitis with perforation at tip and surrounded phlegmons of momentum and segment of terminal ileum (**Figures 3 and 4**). Resection and anastomosis were done and patient discharged home after fifth days of hospital admission. The result of histopathology came Meckel diverticulitis with intestinal mucosal tissue containing actinomycosis with no evidence of malignancy.

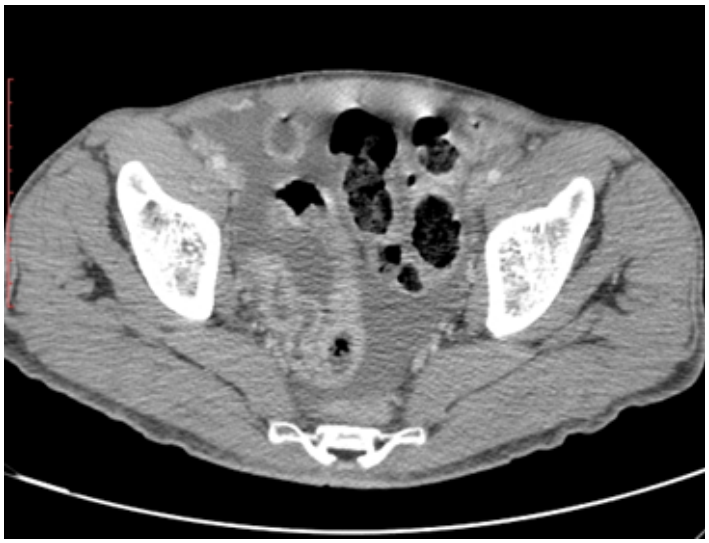

Figure 1: CT abdomen showed pneumoperitoneum with suspected omental abscess and pelvic collection, underlying malignant process cannot be excluded.

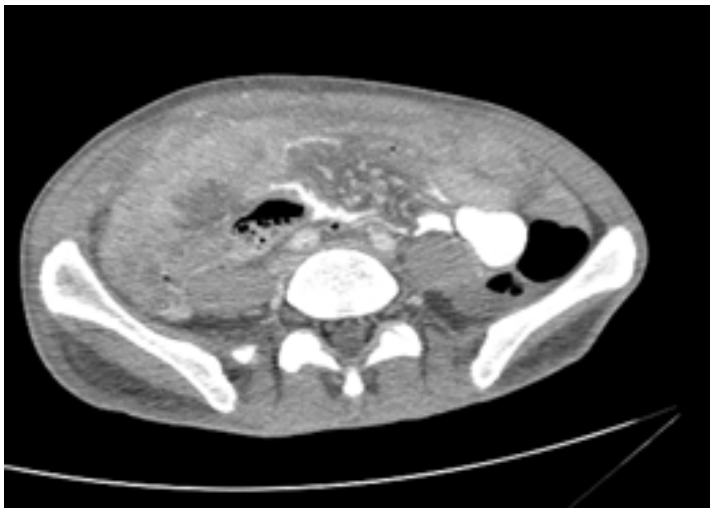

Figure 2: CT abdomen.

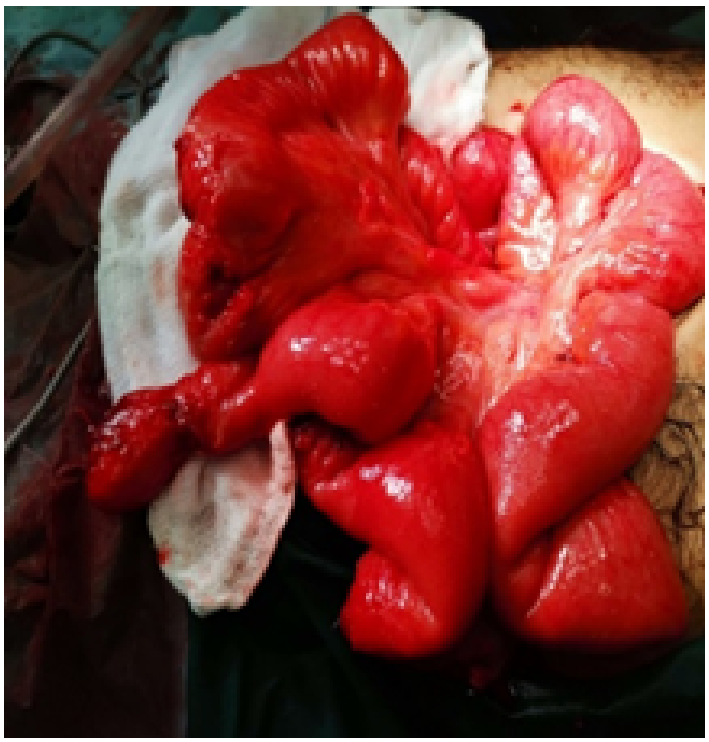

Figure 3: Meckel diverticulitis.

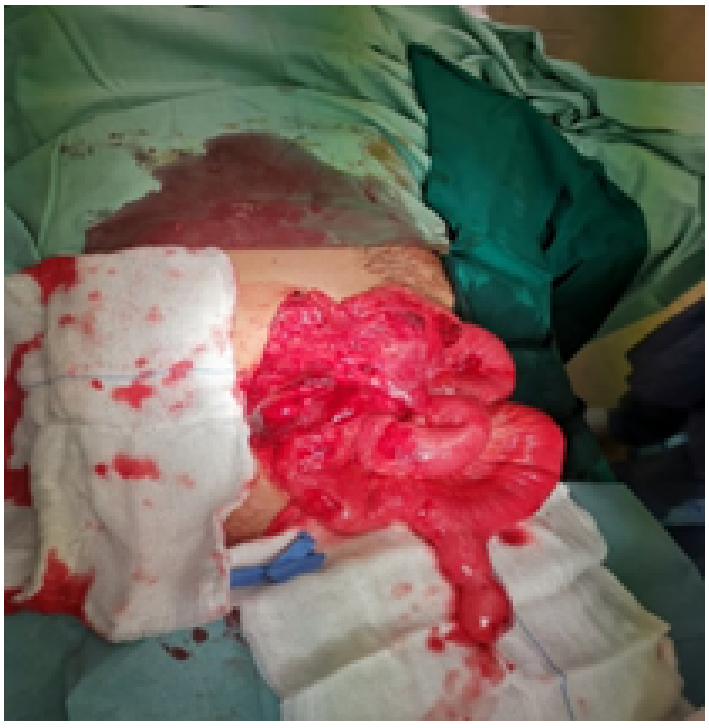

Figure 4: Meckel diverticulitis with perforation at tip and surrounded phlegmons of momentum and segment of terminal ileum.

Discussion

Meckel's diverticulum, the most common true and congenital GI tract diverticulum results from incomplete closure of the omphalomesentric (vitelline) duct [4]. Complications of Meckel's diverticulum including intestinal obstruction, bleeding, acute diverticulitis, or the presence of it in hernial sac Littre's hernia [5].

Actinomyces species are gram positive, filamentous, facultative anaerobes. Currently 92 Actinomyces spp. have been identified. The organism is a normal inhabitant of the mucus membrane mouth, gastrointestinal tract, bronchi, and vagina. Once the integrity of the mucosal barrier has been compromised Actinomyces becomes pathologic and begins an indolent infection-Actinomycosis. The most frequently involved site is cervicofacial and oral cavity 50%-60% followed by thoracic 15%-25% and abdomen 20% [5].

The breach of the mucosal barrier can be secondary to poor oral hygiene and dentition, aspiration, neoplasm, trauma, foreign body penetration, perforated appendicitis, or insertion of IUD [2,6]. The diagnosis of abdominal Actinomycosis should be suspected if an indolent mass or chronic sinus follows an appendectomy [7]. Meckel's diverticulum involvement is very rare.

Diagnosis could be made by finding of characteristic sulfur granules on microscopic examination and special stains should be used to exclude fungal infection [2]. Treatment consists of medical therapy with antibiotics including Penicillin, Sulfonamides, or Tetracycline and surgery for abscesses and areas of chronic scarring [8].

Conclusion

Although Meckel's diverticulitis is a rare entity especially in adult populations, it can appear as an acute abdomen. An early diagnosis and treatment to prevent subsequent complications is essential to ensure an optimal recovery. Clinical picture, complications and surgical incision are the same in appendicitis and Meckel's diverticulitis patients.

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