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A rare case of abdominal actinomycosis mimicking right iliac fossa mass

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Abstract

Abdominal actinomycosis is a chronic suppurative infection caused by actinomyces species commonly misdiagnosed as carcinomatous growth. The infection has a tendency to infiltrate adjacent tissues and is therefore rarely confined to a single organ. Herein, 53 year old male was presenting with right subacute intestinal obstruction. Surgery revealed infiltrative bowel mass involving the small bowel mesentery involving distal ileum, strongly suggestive of malignancy. The patient underwent a right hemicolectomy with oncological principles and the histological examination of the specimen revealed ileocolic actinomycosis. Preoperative diagnosis is difficult to differentiate from malignancy. In any inflammatory or infiltrative bowel mass the differential diagnosis of actinomycosis should be considered and enabling accurate diagnosis.

Keywords: Right iliac fossa mass, right hemicolectomy, abdominal actinomycosis

Introduction

Actinomycosis is an opportunistic infection caused by *Actinomyces israeli*, a gram-positive, non-spore forming anaerobic bacteria which is a commensal in the mucosa of the oral cavity and upper gastrointestinal tract, infection spreads to contiguous tissues that contains sulfur granules, colonies of actinomycetes or cellular debris which might go in for cystic mass with adjacent bowel wall thickening.

Presentation may vary asymptomatic states to infiltrative mass lesions that mimic malignant abdomino-pelvic disease. The ileo-cecal region is most commonly affected, while the left side of the colon is more rarely involved [1]. A computed tomography scan is helpful in identifying the inflammatory process and the organs involved. In uncomplicated disease, high dose antibiotic therapy is the mainstay of treatment. Surgery is required in complicated cases. We report a case of actinomycosis of ileo colic mesentery with review of the literature.

Case report

A 53 years old man presented with history of intermittent crampy lower abdominal pain, with vomiting, who was under conservative management for subacute intestinal obstruction in local hospital came to outpatient department. On examination patient was afebrile, moderately built and moderately nourished with mild dehydration. On palpation, tenderness was found in the right iliac fossa with a firm mass of size 3*3cm with sluggish bowel sounds. Per-rectal examination was normal admitted for evaluation. Abdominal erect x-ray showed dilated small bowel loops. Laboratory investigations of the patient showed moderate neutrophilic leucocytosis with elevated ESR (84) and CRP(45). Ultrasound abdomen showed heterogeneous mass of size 5.5*5.3 cm present in the right iliac fossa probably? Inflammatory bowel mass or malignancy or tuberculosis (fig 1A). on second day, patient had severe crampy abdominal pain not relieved by medication associated with vomiting and abdominal guarding. Computerized tomography scan of the abdomen which revealed an inflammatory mass in the right iliac fossa with adjacent inflammation of the mesentery involving the caecum and the mesentery with no evidence of free fluid or lymphadenopathy. Appendix was not seen separately (fig 1 B). Since the patient was presenting with obstruction, colonoscopy was not performed and laprotomy and proceed was done.



Fig 1: In Ultrasonogram thickened, dilated bowel loops with infiltration of mesentery forming mass in the right iliac fossa (A), abdominal computed tomographic picture of heterogeneous inflammatory bowel mass with adjacent inflamed mesentery (B), post-operative scan showed no residual disease (C)

On explorative laparotomy, 5*4 cm brownish mass in the caecum with adjacent infiltration ileal mesentery which is suspicious of malignancy (fig.2A) was found. Infiltrative mass of ileal mesentery was also involving sigmoid mesentery where it was fixed to presacral region and these tissues were left since there was no definitive plane between the tumor and the presacral venous plexus (fig 2B). Right hemicolectomy with an end-to-end ileotransverse anastomosis was done.

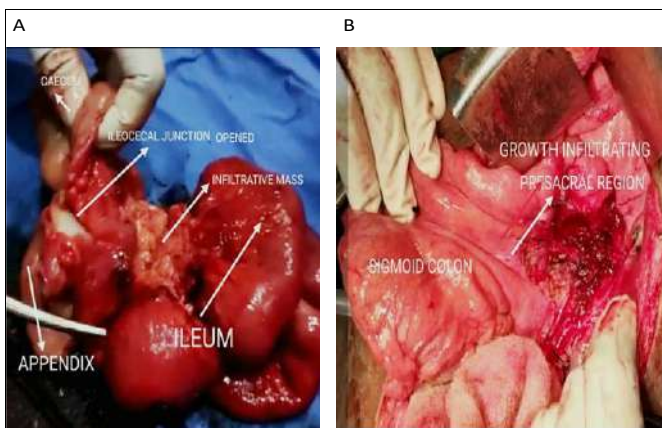


Fig 2: Right hemi-colectomy specimen showing infiltration involving the terminal ileal mesentery (A) intra-operative picture showing residual infiltration in the presacral region (B).

The histological examination of the right hemicolectomy specimen revealed mucosal ulcerations sheets of acute and chronic inflammatory infiltrate with sulphur granules which was gram positive colonies in H & E staining, which was confirmed by immunohistochemistry. Patient was started on intravenous Amoxicillin plus clavulanic acid and continued for 10 days and then followed by oral amoxicillin plus clavulanic acid for 6 months. No postoperative complications were observed. Post-operative follow up of 7 months revealed no residual disease (fig

1C). He was gaining weight after surgery and with broad spectrum antibiotics.

Discussion

Actinomyces israeli, a filamentous, microaerophilic, gram-positive bacillus, inhabitant of human mucous membrane. It was first described by in medical literature in 1857, similar disease in cattle also found. Prolingh first reported yellow granules in actinomycosis. Actinomycosis is a rare infectious disease 1 in 3, 00,000. Improved dental hygiene and wide spread of antibiotics have contributed to decline in incidence of actinomycosis. Abdominal actinomycosis accounts for 20% of the cases. Actinomycosis of cervicofascial (65%) is the most common form presenting with lumpy jaw. Other organs including terminal ileum, caecum and appendix, anorectum, liver, biliary system, genitourinary tract, abdominal wall, retroperitoneum accounts for 15% [1]. As of now only six case reports of abdominal actinomycosis has been reported in Indian journals. Abdominal actinomycosis mimicking right iliac fossa mass is rare and we are reporting it for the first time in Indian journal.

Infection occurs due to a destruction of mucosal barriers including perforated bowel, endoscopic procedures, dental procedures, trauma, appendectomy, intrauterine devices or idiopathic [4]. Presiding mucosal injury actinomycosis causes granulomatous inflammation they have tendency to form mass with adjacent infiltration followed by abscess progressing to adjacent fistulization. Abdominal actinomycosis can mimic malignancy, tuberculosis and inflammatory bowel disease.

Although preoperative diagnosis is difficult, abdominopelvic computed tomography with contrast enhancement may show solid mass (intraluminal or extraluminal) with focal areas of attenuation invading the adjacent tissues which may help in the diagnosis. Colonoscopy can rule out malignancy. Guided biopsy or aspiration cytology helps in diagnosis. *Actinomyces* species are gram positive colonies on culturing with branching filamentous cells which releases polysaccharide in turn binds to the other bacilli producing yellowish "sulphur granules", characteristic feature of actinomycosis in biopsy [5].

As actinomycosis has high desmoplastic reaction high dose broad spectrum antibiotic needed for penetration of the drug. High dose intravenous penicillin injection 2.5 to 3 megaunits four times daily for 2 weeks followed by orally administered penicillin for at least 6-12 months is the treatment of choice [5]. If the patient is allergic erythromycin and tetracyclines can be given alternatively.

Conclusion

Abdominal actinomycosis should be considered in the differential diagnosis of infiltrative bowel mass. Early diagnosis can prevent many complications even without surgical intervention decreasing morbidity and mortality of patient

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