

Case Report

Actinomyces of the colon: A rare case report

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Abstract

Actinomyces is a rare entity, caused by an anaerobic bacterium, *Actinomyces israelii*, which is a component of the human oral and gastrointestinal flora. The commonest site of the disease is cervicofacial region. Abdomen is the second commonest site. In abdominal actinomyces the disease is almost always unifocal and is restricted to the right colon, especially to the caecum. We here report a case of a patient with a very rare form of this entity, characterized by multiple foci of abdominal involvement with the most severe lesion localized in the transverse colon. The clinical picture resembled a picture of colonic carcinoma and the diagnosis was made by histopathological examination of the lesion removed at surgery. No predisposing factor was found. The infection was successfully treated with a prolonged course of antibiotics (penicillin and tetracycline), after surgical removal of the lesion.

Introduction

Actinomyces is a chronic granulomatous infection occurring in human beings and animals. It is characterized by the development of indurated swellings, mainly in the connective tissue, suppuration and the discharge of sulphur "granules". Actinomyces in human being is an endogenous infection. The actinomyces species are normally present in mouth, intestine and vagina as commensals. Predisposing factors include immunosuppression such as HIV and Diabetes, appendicitis, diverticulitis, bowel perforation, trauma, foreign bodies or poor oral hygiene may favour tissue invasion¹⁻³.

Case report

A 50-year old woman presented with complaints of pain in lower abdomen since 4

months and was mild to moderate in severity. On examination a palpable lump of size about 10 x 8 cm in right paraumbilical region was present. The lump was non-tender, soft to firm in consistency with normal overlying skin. It was not fixed to underlying structures. There was no history of IUCD insertion or previous surgery. CT scan revealed a mass in proximal transverse colon causing thickening of its wall and pericolic region. It had also infiltrated right rectus muscle (Fig.1). On surgical exploration proximal transverse colon was found to be thickened and adherent to anterior abdominal wall. A nodule was also felt on the surface of right lobe of liver. Right hemicolectomy was decided and done with excision of involved tissue of anterior abdominal wall.

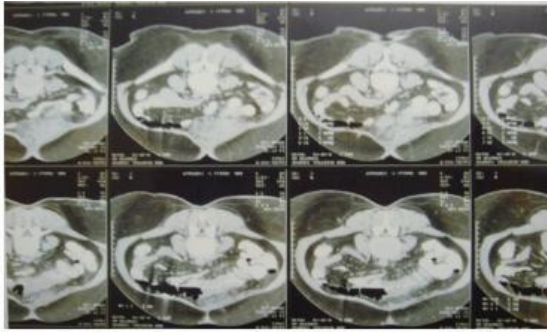


Fig. 1: CT scan Findings: A mass in proximal transverse colon with thickening of its wall and pericolic region and infiltrated right rectus muscle.



Fig. 2: Histopathological findings grossly specimen showed some degree of stenosis and inflammation and microscopically revealed actinomycotic granuloma

Gross examination of specimen showed some degree of stenosis and inflammation. Histopathological examination revealed actinomycotic granuloma (Fig.2). The infection was successfully treated with prolonged post operative course of penicillin and tetracycline after histopathological diagnosis.

Discussion

Actinomycosis is an indolent, slowly progressive infection caused by anaerobic or microaerophilic bacteria, primarily of the genus *Actinomyces*, which colonize the mouth, colon and vagina. Mucosal disruption may lead to infection at virtually any site in the body. In vivo growth of actinomycetes usually results in the formation of clumps called grains or sulphur granules. This infection is commonly confused with a neoplasm. Actinomycosis has been called “the most misdiagnosed disease” and it has been said, “No disease is so often missed by experienced clinicians.” Thus this entity remains a diagnostic challenge. An awareness of the full spectrum of the disease will expedite its diagnosis and treatment and will minimize the surgical intervention, morbidity and mortality that are reported all too often. Abdominal actinomycosis poses a great diagnostic challenge. Months or years usually pass from the inciting event (e.g.

appendicitis, diverticulitis, peptic ulcer disease, foreign body perforation, bowel surgery or ascension from IUCD associated pelvic inflammatory disease) to clinical recognition. Because of flow of peritoneal fluid and or the direct extension of the primary disease, virtually any abdominal organ, region or space can be involved. In our case no predisposing cause was present. The disease usually presents as an abscess or a mass lesion⁴. Our case presented as lump abdomen which was present on right paraumbilical region.

In most of the cases mass is often fixed to the underlying tissue and mistaken for tumor. In our case mass was not completely fixed but it was involving rectus and parietal structures. Infiltrative disease with irregular contrast enhancement may be seen on computed tomography (CT)⁵⁻⁶. In our case similar findings were present on CT scan. Sinus tract to the abdominal wall or perianal region may develop.

Hepatic infection usually present as single or multiple abscesses or masses⁷. In our case single small nodule was present in liver, showing spread through portal vein. The preoperative diagnosis of colonic actinomycosis is accurate only in few cases because clinical, laboratorial and radiological manifestation of colonic actinomycosis is not specific and mimic inflammatory bowel disease or neoplasm⁸.

Diagnosis

The diagnosis of actinomycosis, particularly when it mimics malignancy, is rarely considered. All too often, the first mention of actinomycosis is by the pathologist after extensive surgery has been performed. In our case, diagnosis was confirmed by histopathological examination of specimen. Since medical therapy alone is often sufficient for cure, the challenge for the clinician is to consider the possibility of actinomycosis in time to diagnose it in the least invasive fashion and to avoid unnecessary surgery.

A combination of colonoscopy and CT scan appears to be important for both diagnosis and management because of their compensatory findings of mucosal and extra mucosal lesion, respectively. Both fine needle aspiration and biopsy are being used successfully to obtain clinical material for diagnosis, as are CT and US guided aspiration or biopsies⁹.

Although sulphur granules are defining characteristic of actinomycosis, granules are also found in mycetoma and botryomycosis; however, these can be differentiated by appropriate histopathologic and microbiologic studies. Microbiologic identification of actinomycosis is possible in only a minority of cases and is often precluded by prior antimicrobial therapy. Therefore, for optimal yield, the avoidance of even a single dose of antibiotic is mandatory. Immunofluorescence testing for *A. Israelii* has become the useful diagnostic alternative. Actinomyces can be detected in urine by means of appropriate staining and culture¹⁰.

Conclusion

This case illustrates the importance to consider the possibility of actinomycosis when in case of an unclear abdominal mass. Combined medical-surgical therapy is still advocated by some authorities. However, an increasing body of literature now supports an initial attempt at cure with medical

therapy alone, even in extensive disease. CT and MRI should be used to monitor the response to therapy. When a critical location is involved (e.g. the epidural space, CNS) or when suitable medical therapy fails, surgical intervention may be appropriate.

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