Colonic Actinomycosis: Report of a Case and Review of the Literature

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Abstract: Abdominal actinomycosis is a rare entity which presents some difficulty in establishing a correct preoperative diagnosis. We report herein the case of a 41-year-old woman who developed abdominal actinomycosis involving the left colon and the surrounding retroperitoneum. The patient, who had an intrauterine contraceptive device (IUCD) in situ, presented with left flank pain and the signs and symptoms of an intraabdominal mass, which was initially diagnosed as a neoplasm originating from the left colon or the retroperitoneal space. Thus, a left colectomy was performed, but the histopathological diagnosis revealed abdominal actinomycosis. We evaluated the diagnosis and treatment of this disease in light of the knowledge acquired from the available literature on this rare entity.

Key Words: actinomycosis, colonic disease, surgery, intrauterine device

Case Report

On March 21, 1994, a 41-year-old woman was hospitalized for abdominal and left back pain, nausea, and constipation. She had received treatment for pelvic inflammatory disease (PID) 18 months previously and had an intrauterine contraceptive device (IUCD) in situ. Physical examination revealed tenderness over the left flank and a mass with a smooth surface measuring about 10 × 10 cm. Her hemoglobin level was 9.5 g/dl and the erythrocyte sedimentation rate (ESR) was found to be 30 mm/h and 60 mm/h for 30 min and 1 h, respectively. The other laboratory findings were within normal limits.

Plain abdominal radiography revealed no unusual findings other than the IUCD. A barium enema study of the large bowel revealed accumulation of colonic gas in the left side of the abdomen and the movement of some bowel loops to this site (Fig. 1). The colonoscopy was normal, but a computed tomography (CT) scan revealed a mass infiltrating and displacing the left colon, which was also infiltrating the retroperitoneal muscles (Fig. 2).

A laparotomy was performed under the preliminary diagnosis of either a tumor originating from the left colon or retroperitoneal space, or a peridiverticular abscess. A tumoral mass of about 10 × 15 × 15 cm in size, involving the left colon, was found. This mass extended from the splenic region to the crista iliaca anterior superior, and infiltrated the left lateral wall of the abdomen. The transverse colon was retracted toward the mass. Thus, we performed a left hemicolectomy and complete excisions of the mass. Her postoperative recovery was uneventful and she was discharged on the 12th day after her operation.

Histopathological examination of the excised colonic segment revealed diverticula, edema, and polymorphonuclear leukocyte infiltration in the mucosal and submucosal layers, and granulation tissue in the

Introduction

Actinomyces israelii is the causative organism of actinomycosis in human beings. It is a member of the Actinomycetaceae family and is normally commensal in the mouth, oropharynx, and the gastrointestinal and genital tracts. Actinomycosis usually occurs in the form of an opportunistic infection following conditions such as local disease, trauma, surgical intervention, and foreign body reactions, and is characterized by chronic inflammation, induration, and the formation of abscesses, fistulas, and sinuses with multiple draining sites. The three main clinical forms of this disease are cervicofacial, thoracic, and abdominopelvic; however, the latter is extremely rare.

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Fig. 1. Barium enema study. The short arrows the accumulation of colonic gas in the left-upper abdomen, and the long arrow shows the intrauterine contraceptive device in the pelvis.

serosa. In the extracolonic part of the mass, there were focal abscesses and infiltration with histiocytes and fibroblasts. In some focal areas, basophilic staining of sulfur granules with hematoxylin and eosin and Gram-

positive bacteria were seen (Fig. 3a,b). Thus, a histopathological diagnosis of actinomycosis was confirmed and the patient was treated with intravenous benzyl penicillin 18 megaunits per day for 2 weeks, then with oral amoxicillin for 3 weeks.

Discussion

A. israelii is a Gram-positive anaerobic bacteria which forms colonies recognizable by the appearance of characteristic sulphur granules in the pus or tissues. Until recently, because of its branching filamentous

Fig. 3a. Characteristic “sulphur granules” of the Actinomyces colony. The granules are surrounded by polymorphonuclear leukocytes, lymphocytes, and plasmaocytes. (H&E, ×75). b In the same focus, branched filamentous bacteria can be seen. (Gram’s stain, ×150)