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Case Report

Pelvic actinomycosis with abundant ascites, pleural effusion, and lymphadenopathy diagnosed with endometrial biopsy and treated with medication only

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ABSTRACT

Objective: Pelvic actinomycosis almost always presents as a "dry" type, and pelvic actinomycosis with ascites is extremely rare. We present an unusual case of pelvic actinomycosis with ascites, pleural effusion, and lymphadenopathy. Because of these atypical clinical features, a malignant process such as ovarian cancer or peritoneal carcinomatosis was suspected, but an endometrial biopsy revealed pelvic actinomycosis, which was treated without surgical intervention.

Case report: A 50-year-old Korean woman presented to our clinic with a 3-month history of abdominal pain and weight loss. An abdominopelvic computed tomography scan demonstrated ascites, pleural effusion, bilateral adnexal tubular structures, several enlarged lymph nodes in the paraaortic area, and diffuse peritoneal infiltration. Ultrasonography showed fluid collections measuring 2.7 cm in the cul-de-sac, 2.42 cm in the right paracolic gutter, and 3.13 cm in the left paracolic gutter. Endometrial/endocervical specimens showed marked chronic inflammation with sulfur granules, with a colony of filamentous organisms consistent with *Actinomyces* infection. The patient underwent antibiotic treatment for 6 months and recovered without complications or adverse events in the 13 months of follow up.

Conclusion: Pelvic actinomycosis should always be considered in patients with a pelvic mass and peritoneal infiltration, especially in the presence of intrauterine device use, despite the fact that abundant ascites, pleural effusion, and lymphadenopathy almost never accompany pelvic actinomycosis. Endometrial/endocervical biopsy may yield a diagnosis without an invasive procedure and should be performed. Because of the excellent response to penicillin, medical treatment alone is an effective method to eradicate pelvic actinomycosis without the need for surgical intervention.

Introduction

Pelvic actinomycosis is a rare pelvic inflammatory disease caused by the Gram-positive anaerobic bacteria, *Actinomyces*, especially *Actinomyces israelii*. *Actinomyces* is found in the normal oropharyngeal flora and in the vaginal flora with long-term intrauterine contraceptive device (IUD) use. Clinical actinomycosis occurs when this bacteria invades and forms an abscess in three main locations: the cervicofacial (50%), thoracic (15–20%), and abdominal (20%) regions [1].

Pelvic actinomycosis constitutes 3% of all actinomycosis infections. It is usually insidious, and is often mistaken for other conditions such as diverticulitis, abscesses, inflammatory bowel disease, and malignant tumors. It is difficult to diagnose an actinomycotic adnexal mass by imaging modalities prior to surgery. It almost always presents as a "dry" type, and ascites and lympadenopathy is rarely reported in the setting of pelvic actinomycosis [2].

We present a case of pelvic actinomycosis with ascites, pleural effusion, and lymphadenopathy, which was more suspicious for a malignant process such as ovarian cancer and peritoneal carcinomatosis but was diagnosed as a pelvic actinomycosis via endometrial biopsy and treated without surgical intervention.

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Case report

A 50-year-old Korean woman presented to our clinic with a 3-month history of abdominal pain and 3 kg of weight loss. She had used an IUD for >10 years. Her medical history was unremarkable except for hypothyroidism. She had a temperature of 38°°C, and pelvic examination showed uterine/adnexal tenderness and rebound tenderness. Cervical motion tenderness was also noted. In addition, α-fetoprotein, carcinoembryonic antigen, carbohydrate antigen 19-9, and cancer antigen 125 levels were normal. Other laboratory values were significant for leucocytosis (15,290/μL), a C-reactive protein level of 37.0 mg/L, mildly prolonged prothrombin time (international normalized ratio, 1.33), and aspartate aminotransferase value of 67 IU. Ultrasonography showed fluid collection in the cul-de-sac and the paracolic gutter (Fig. 1). An abdominopelvic computed tomography (CT) scan demonstrated ascites, a small amount of pleural effusion, bilateral adnexal tubular structures, several enlarged lymph nodes in the aortocaval and left paraaortic areas, and diffuse infiltration process involving pelvic mesentery, uterus, transverse colon, and pelvic ileal loop (Fig. 2A). The imaging studies were suggestive of pelvic malignancy such as

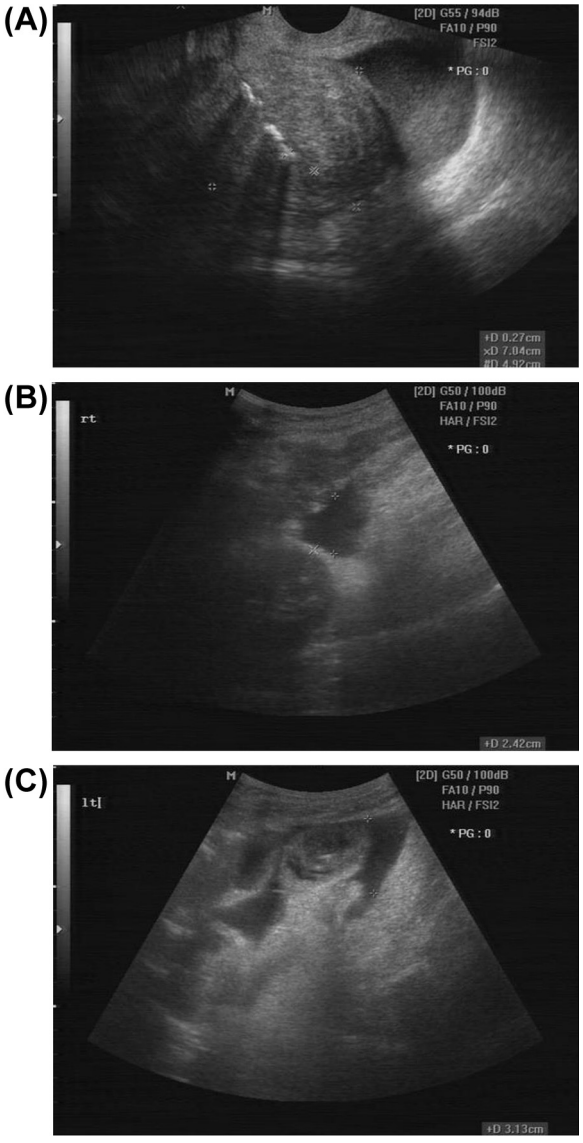

Fig. 1. Ultrasonography showing fluid collections measuring 2.7 cm in (A) the cul-de-sac, 2.42 cm in (B) the right paracolic gutter, and 3.13 cm in (C) the left paracolic gutter.

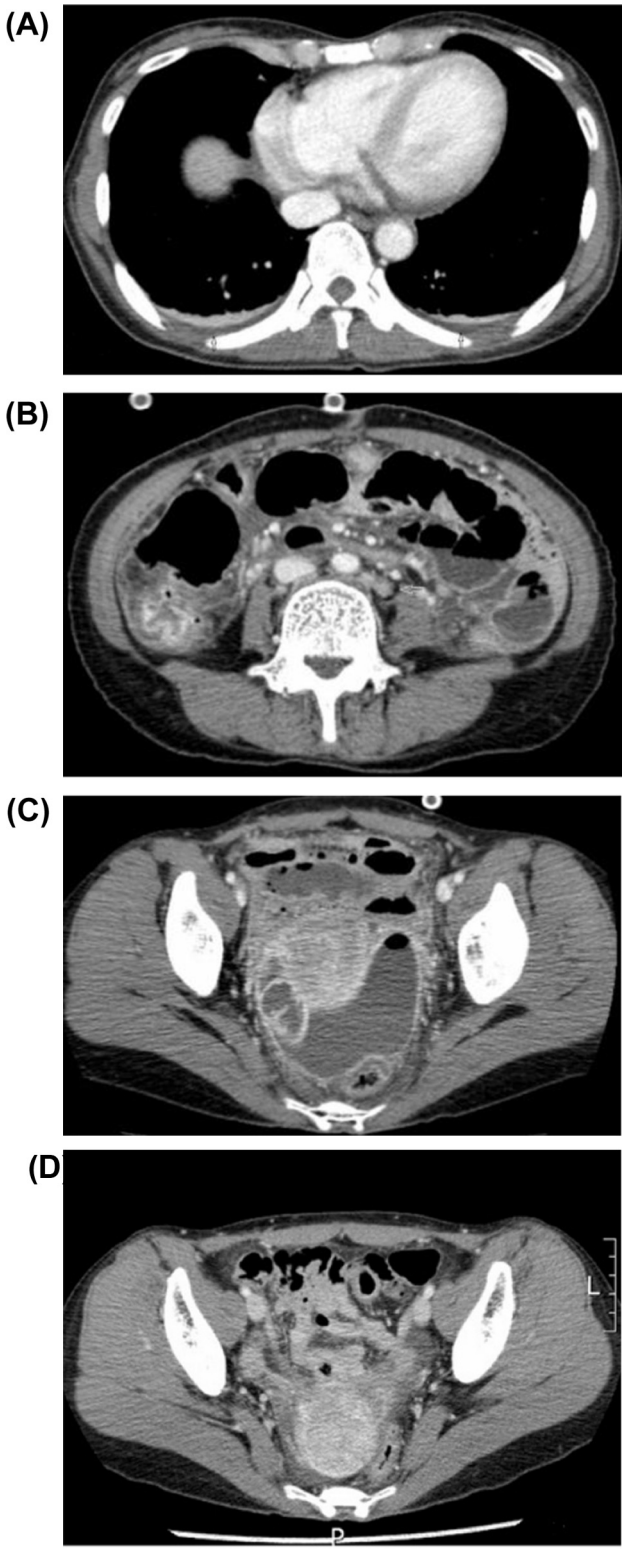

Fig. 2. Computed tomography scan showing (A) pleural effusion, (B) lymphadenopathy and ascites, and (C) pelvic inflammation prior to treatment, and (D) improving state after treatment.

serous surface papillary carcinoma of the peritoneum. Cephalosporin was administered presumptively to treat peritonitis. Ascitic fluid was yellow and turbid, and bacteria and neutrophil dominancy were observed during microscopic examination. The serum-to-ascites albumin gradient was 1.05 g/dL. Ascitic fluid