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CASE REPORT: PELVIC ACTINOMYCOSIS: A RARE ENTITY PRESENTING AS TUBO-OVARIAN ABSCESS

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ABSTRACT A 35-year-old female, P3A0L2 was admitted on post-partum day 40 after a preterm vaginal delivery to Civil Hospital Ahmedabad with complaints of abdominal pain, fever, weakness, and weight loss for the past 15-20 days. She had no history of intrauterine contraceptive device insertion during this pregnancy.Clinical and radiographic examination revealed a - 43x73x81 mm thick-walled collection in the right lateral relation to the uterus.70x120x143 mm similar collection in anterosuperior relation to the uterus, suggestive of large periuterine intercommunicating collection/abscess formation, likely right tubo-ovarian etiology.The differential diagnosis included Ovarian dermoid cyst, Peri uterine collections due to ruptured ectopic right adnexal pregnancy, Peri uterine collections due to any other pathology, tubercular tubo-ovarian (TO) mass, red degeneration of a fibroid, diverticular disease, emphysematous cystitis, pelvic malignancy, and mesenteric cyst. Histologic examination identified an actinomycotic TO abscess.

KEYWORDS :

INTRODUCTION

Actinomycosis is a chronic bacterial disease caused by gram-positive, pleomorphic, non-spore forming, non-acid fast anaerobic or microaerophilic bacilli belonging to the genus Actinomyces and the order Actinomycetales. This disease is marked by localized swelling, suppuration, abscess formation, tissue fibrosis, and draining sinuses. Actinomyces species are closely related to Nocardia species; both were historically classified as fungal organisms. Pelvic actinomycosis is rare and typically occurs as a complication of intrauterine device (IUD) use. The organism is challenging to culture, with identification usually relying on histologic features in pathological specimens or cytologic features on Papanicolaou smears. A specific fluorescent antibody stain is also available for detection. Tubo-ovarian abscesses are generally polymicrobial, dominated by anaerobic organisms, and the specific role of Actinomyces in abscess formation is still not fully understood.

Case Report

A 35-year-old female, para 3, abortus 0, living 2,was admitted to Civil Hospital Ahmedabad on postpartum day 40 following a preterm vaginal delivery, with complaints of abdominal pain, fever, weakness, and weight loss over the past 15-20 days. She did not have a history of intrauterine contraceptive device insertion during this pregnancy. On examination, she exhibited tachycardia and mild hypotension. Her uterus was the size of a 16-18 week gestation and mild tenderness was noted. Per speculum examination revealed a dirty brown discharge. Per vaginal examination showed an anteverted, bulky uterus with a mass approximately the size of a 14-16 week gestation arising from the pelvis, along with right-sided forniceal fullness and tenderness.Blood investigations indicated severe anemia, for which blood transfusion was administered. Her ESR was elevated, but blood and urine cultures were negative. An ultrasound of the pelvis revealed an approximately 125 x 64 x 108 mm collection anterosuperior to the uterus and an approximately 38 x 62 x 77 mm collection at the right posterolateral aspect of the uterus. These collections appeared to communicate with each other. MRI of the pelvis showed a 43 x 73 x 81 mm thick-walled collection in the right lateral relation to the uterus, communicating with another 70 x 120 x 143 mm collection in the anterosuperior relation to the uterus, suggesting an infectious etiology with large periuterine intercommunicating collections or abscess formation, possibly of right tubo-ovarian origin.The patient was planned for exploratory laparotomy after initial antibiotic treatment. During the procedure, 500 cc of pus was drained from the peritoneal cavity from the intramuscular plane. Dense adhesions were present, requiring adhesiolysis. The right-sided tubo-ovarian abscess wall was gradually separated from the bowel, omentum, and posterior surface of the uterus, and was subsequently removed. Right-sided hydrosalpinx was present, leading to a right-sided salpingo-oophorectomy. The left tube and ovary were adherent to the bowel and omentum, necessitating adhesiolysis and a left-sided salpingectomy.Postoperatively, the patient was stable and shifted to the ward. Histopathology showed the presence of actinomycosis within fibrous stroma with lymphoplasmacytic and histiocytic infiltration. Fluid culture sensitivity revealed the presence of Klebsiella pneumoniae sensitive to imipenem and meropenem. The patient was treated with higher antibiotics according to the culture and sensitivity report.

DISCUSSION

The female genital tract is a relatively rare site for pelvic actinomycosis, and the condition is often clinically unsuspected. Traditionally, actinomycosis of the female genital tract has been thought to originate from an ascending infection of the bacteria. The association between intrauterine devices (IUDs) and pelvic actinomycosis was first described around 1970 and is now well documented, particularly with plastic IUDs. Pelvic actinomycosis may also spread from an intestinal infection, usually from indolent ileocecal disease. This condition is rare in children. Patients typically present with a history of vaginal discharge, abdominal or pelvic pain, menorrhagia, fever, weight loss, and prolonged use of IUDs. Eighty percent of cases of pelvic actinomycosis in IUD users have been reported in women who have not changed their IUDs for at least 3 years. However, in our patient, there was no history of IUD insertion. Most cases are diagnosed histologically by identifying an actinomycotic grain in the center of the abscess or by cytologic features on a Papanicolaou smear.

CONCLUSION

Tubo-ovarian actinomycosis can occur in healthy women who

have never used an intrauterine contraceptive device and have no history of pelvic infection. Therefore, it is advisable to rule out this infection using cytologic examination and proper microbial culture methods. Once diagnosed, the infection can be effectively treated with broad-spectrum antibiotics such as injectable penicillin for 2-6 weeks, followed by oral penicillin or amoxicillin for 6-12 months. For patients allergic to penicillin, alternative antibiotics such as tetracycline, erythromycin, imipenem, or ceftriaxone can be used. Sometimes, surgery, such as drainage of the abscess and reduction of infected tissue, may be necessary. It is also imperative to investigate other potential sites of actinomycosis, although no other sites were involved in this particular case.

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