Case Report

# A Case of Tubo - Ovarian Actinomycosis

**Mehmet Sinan BEKSAÇ[1], Dilek KAYA[2], Yeşim ÇETİNKAYA ŞARDAN[3], Alp USUBÜTÜN[4]**

*Ankara, Turkey*

We presented a case of tubo-ovarian actinomycosis in a patient with an intrauterine device (IUD). The patient was referred to our clinic with a diagnosis of pelvic inflammatory disease. Magnetic resonance imaging analysis indicated a cystic lesion (6.6x8x8 cm) on the left over. After performing total abdominal hysterectomy and bilateral salpingo-oopherectomy, histopathological studies showed a tubo-ovarian abscess and typical sulphur granules surrounded by neutrophils associated with actinomycosis. This case indicated that if clinicians are aware of actinomycosis in patients using IUCDs, the formation of tubo-ovarian abscess and thus excessive surgical procedures can be prevented.

**Key Words:** Actinomycosis, Intrauterine device, Tuboovarian abscess, Pelvic inflammatory disease

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## Introduction

Actinomycosis is a chronic, suppurative, granulomatous and spreading disease which is caused by any of several anaerobic organisms from the genus Actinomyces.[1,2] Although female genitalia are a rare localization for actinomycosis, prolonged use of intrauterine contraceptive devices (IUCDs) is considered as the main predisposing factor in the development of genital actinomycosis.[3] The ascending of actinomycotic infections due to an IUCD from uterus to the fallopian tubes may produce pelvic inflammatory disease (PID) and as a result of the delayed treatment of PID, tubo-ovarian abscesses (TOAs) may develop.[4] Since tubo-ovarian actinomycosis is a rare clinical form of actinomycosis, we want to report a rare case of actinomycosis in a 43 year-old-woman with an IUCD who presented left-sided TOA. In this patient, actinomycosis was diagnosed by histological examination after surgery.

*[1.] Hacettepe University Faculty of Medicine Department of Gynecology and Obstetrics, Ankara*

*[2.] Hacettepe University Faculty of Science Department of Biology, Ankara*

*[3.] Hacettepe University Faculty of Medicine Department of Infection Diseases, Ankara*

*[4.] Hacettepe University Faculty of Medicine Department Pathology, Ankara*

*Address of Correspondence:* *Mehmet Sinan Beksaç*
*Hacettepe University, Faculty of Medicine Department of Gynecology and Obstetrics Sıhhiye, Ankara*

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## Case Report

A 43-year-old woman was referred to our department with a history of PID. She had been wearing an IUCD (she did not remember how long she had been wearing this device) and it was removed at the outpatient clinic. An abscess on left over was suspected in the ultrasound scan. Magnetic resonance imaging (MRI) analysis indicated a cystic lesion (6.6x8x8 cm) with a T1 hyperintense, T2 hypointense hemorrhagic-proteineous central portion and a solid periphery on the left over. This mass was thought to be associated with a tubo-ovarian abscess. Cervical cytology smear was normal. The patient's white blood cell count and C-reactive protein concentration were 10.7 x10^3/µl and 8.86 mg/dL, respectively, both were markedly increased. Serum levels of CA15-3, CA125 and CEA were 27.79 U/mL, 11.63 U/mL and 2.24 ng/mL, respectively. These serum levels were within normal limits, except those of CA15-3. Laboratory tests revealed mild anemia (8.9 g/dL). Moreover, no abnormal findings were seen in liver and renal function tests. After a total abdominal hysterectomy and bilateral salpingo-oopherectomy were performed, gross pathology revealed a brown cavitation. The diameter of this cavitation was 4 cm. Solid areas around the cavity were seen as inflammatory and hemorrhagic. Histopathological studies showed chronic inflammation affecting the cervix and tube with salpingitis of the right tube and a tubo-ovarian abscess. There was no evidence of malignancy. With higher magnification, typical sulfur granules surrounded by neutrophils (Figure 1) were found and actinomycosis was diagnosed based on the presence of these granules. The patient received antibiotic therapy with moxifloxacin (Avelox) because of PID. After surgery, cervical cytology smear revealed atrophy and inflammation.

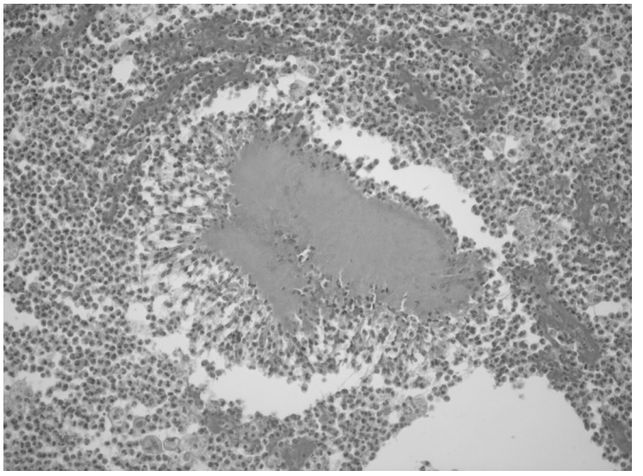

*Figure 1: A typical sulfur granule surrounded by neutrophils (Hematoxysilen & Eozin, x200)*

## Discussion

Actinomyces species are the normal inhabitants of mucosal surfaces of oral, gastrointestinal and genital tracts. They do not cross the intact mucosa unless there are the predisposing factors such as trauma, surgery or foreign body.[1] IUCDs are considered as the principal favorable for actinomycosis involving the female genital tract.[3] Because IUCDs may cause an injury in the intact mucosa and once crossing the injured mucosal barriers and invading the tissue, Actinomyces grow grossly and slowly by breaching anatomical boundaries and form abscesses and sinus tracts filled with many neutrophils and surrounded by dense fibrotic tissue.[5] Due to a delay in diagnosis of actinomycosis, the infection can ascend from vagina to uterus, ovaries and fallopian tubes through a thread in the IUCD to produce PID and sometimes TOAs.[4] Tubo-ovarian actinomycosis may also occur following appendicitis or abdominal surgical procedures because of intestinal mucosal barrier disruption after surgery. It is reported that the location of TOAs depends on predisposing factors. TOAs on the right over are attributed to earlier appendicitis or appendectomy, whereas IUCD-associated tubo-ovarian actinomycosis generally occurs on the left side.[4] In our patient with tubo-ovarian actinomycosis on left over, the presence of a history of IUCD placement or absence of obvious bowel disease is thought to indicate that the IUCD may have been the causative factor. This finding is implied that women not changing IUCDs for a long time may be at high risk for the development of tubo-ovarian actinomycosis.

The most difficult task for management of tubo-ovarian actinomycosis is to reach a diagnosis before a surgical resection.[1] The preoperative diagnosis is commonly carcinoma and the inflammatory process are not considered.[6,7] Thus, as in this case, the diagnosis of disease is often made postoperatively. However, once the diagnosis is established, the disease can be treated with antibiotics successfully.[4] Clinicians and surgeons should be keep tubo-ovarian actinomycosis in mind especially in patients with a history of IUCD placement to prevent the development of TOAs and thus excessive surgical procedures.

## Bir Tuba - Ovaryan Aktinomikoz Vakası

Bu çalışmada, rahim içi araç (RİA) kullanan bir hastada tuba-ovaryan aktinomikoz vakası sunulmuştur. Hasta, kliniğimize pelviğin ihtihabi hastalığı tanısı ile başvurmuştur. Manyetik rezonans görüntülemede sol overde kistik bir lezyon (6,6x8x8 cm) saptanmıştır. Total abdominal histerektomi ve bilateral salpingoooforektomi ameliyatından sonra, yapılan histopatolojik incelemeler sonucu tuba-ovaryan apse ve aktinomikozla uyumlu nötrofillerle çevrili tipik sülfür granülleri belirlenmiştir. Özellikle RİA kullanan hastaların aktinomikoz açısından risk altında olduğu unutulmazsa, tuba-ovaryan apse oluşumu ve dolayısıyla gereksiz cerrahi girişimler önlenebilir.

**Anahtar Kelimeler:** Aktinomikoz, Rahim içi araç, Tuboovaryan apse, Pelviğin iltihabi hastalığı

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