An Unusual Case: Actinomyces Abscess Imitating Pelvic Malignancy with Ureteral Involvement

Ender Bir Olgu: Üreteral Tutulumlu Pelvik Malignensiyi Taklit Eden Aktinomiçes Absesi

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Geliş Tarihi/*Received:* 25.12.2008
Kabul Tarihi/*Accepted:* 11.02.2009

This case report was presented as a poster presentation in VII[th] National Congress of Gynecology and Oncology, 1-5 May 2002, Kemer-Antalya/Turkey

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ABSTRACT A 41-year-old woman was admitted with adnexal mass diagnosis. Her complaints were pelvic pain radiating to rectum and difficulty in walking. Her past medical history was significant for intrauterin device (IUD) which has been placed eight years ago. At initial examination, an adnexal mass was found and patient was hospitalized for operation. Her laboratory work-up and tumor markers were normal except for a mild anemia. At operation, radical hysterectomy, pelvic and paraaortic lymph node sampling was done. Histopathological results revealed non-specific chronic endometritis, chronic cervicitis and actinomyces abscess with sulphur granules. Patient had given penicillin for six months. At follow-up visit after six months , there were no signs or symptoms of infection. Relapse was not seen. This is a presentation of an actinomyces abscess case which is a rarely seen condition.

Key Words: Actinomycetaceae; intrauterine devices; abscess

ÖZET Kırk bir yaşında kadın hasta adneksiyal kitle ön tanısı ile kliniğimize başvurdu. Yakınmaları yürümede güçlük ve rektuma vuran pelvik ağrı idi. Hastanın tıbbi öyküsünde sekiz yıl önce yerleştirilen rahim içi araç dikkat çekiyordu. İlk muayenesinde adneksiyal kitle saptandı ve hasta operasyon için yatırıldı. Hastanın laboratuvar tetkikleri ve tümör markırları hafif bir anemi dışında normal idi. Cerrahi olarak, radikal histerektomi, pelvik ve para-aortik lenf nodu örneklemesi yapıldı. Histopatolojik sonuç, non-spesifik kronik endometrit, kronik servisit ve sülfür granüllü aktinomiçes absesini ortaya koymaktaydı. Hasta altı ay süre penisilin ile tedavi edildi. Altı aylık takipte enfeksiyon bulgu ve semptomları yoktu. Nüks görülmedi. Bu yazıda nadir görülen bir aktinomiçes absesi sunulmaktadır.

Anahtar Kelimeler: Aktinomiçes; rahim içi araç; abse

Turkiye Klinikleri J Gynecol Obst 2009;19(4):227-30

Actinomycetes are gram-positive staining, anaerobic, filamentous, branch-forming bacteria. *Actinomyces israelii* is found in the gastrointestinal tractus including mouth as a part of normal flora. They merely cause chronic suppurative infections. After local trauma, it may invade tissues, forming filaments surrounded by areas of inflamation. Hard, yellow granules (sulphur granules) composed of a mass of filaments are formed in pus.[1,2] It is acknowledged that actinomyces species, especially *A. israelii* are also found in the normal genital flora.[2-6] Colonisation of *A. israelii* is two to four fold increased in IUD users.[3,6] It is also shown that pelvic in-

flamatory disease incidence is four fold increased for those who are culture positive for *A. israelii*[4,5] This is a presentation of an actinomyces abscess case, which is a rarely seen condition. The differential diagnosis included pelvic tumor and the definitive diagnosis was found to be an actinomyces abscess .

CASE REPORT

A 41-year-old woman was admitted with adnexial mass diagnosis. Her complaints including pelvic pain in radiating to rectum and difficulty in walking had begun six months ago with right inguinal pain and were been diagnosed and treated as lower urinary tract infection at another institution. Since her symptoms had progressed despite ampirical antibiotherapy, she was referred to our clinic. At initial examination, an adnexial mass was found and patient was hospitalized for surgery. Her past medical history was significant for IUD which has been placed eight years ago and was removed upon admission to our hospital. At the pelvic examination, the right adnexial region was tender. At the left side , an immobile mass of hard consistency, originating from rectovaginal recess, filling parametrial tissues, reaching to left adnexial region was palpated. The mass also reached pelvic sidewalls.

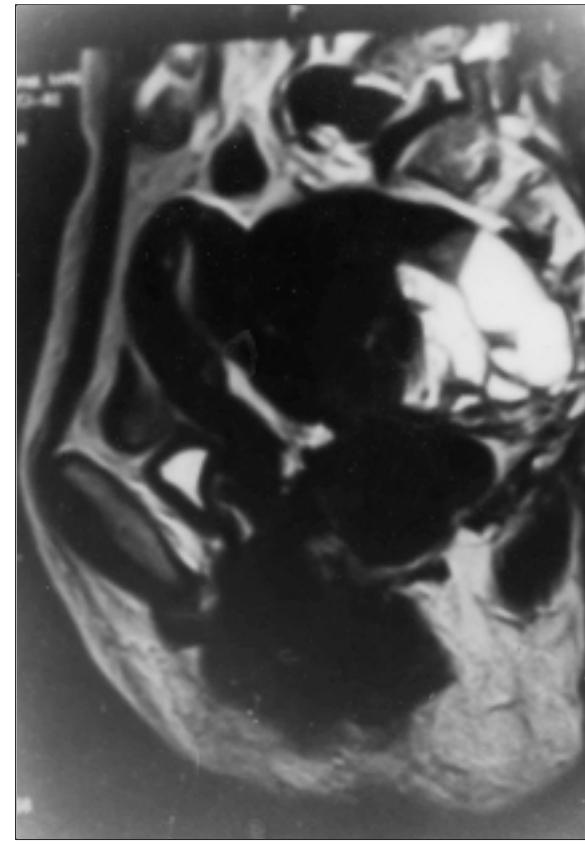

FIGURE 1: MRI scan performed preoperativelly showing a mass highly suspicious for malignancy with ill defined borders, lost tissue planes.

Her laboratory work-up and tumor markers were normal except for a mild anemia. At ultrasonographic (USG) examination, a cystic mass lesion of 48 x 41 x 40 mm was detected. Cyst walls were thick and contained hypoanechoic fluid-like collection. As a part of preoperative work-up, a magnetic resonance imaging (MRI) scan was also performed. It revealed a mass lesion of 7 x 6 x 5 cm containing cystic and solid compartments (Figure 1), involvement of one third of lower part of left ureter and associated hydroureteronephrosis. Urology consultation confirmed unilateral hydroureteronephrosis due to a tumoral obstruction and preoperative ureteral catheterisation was performed.

At operation, right adnexal anatomy of the patient was normal. Specimens from left adnexal mass were transferred from the operating room to the Department of Pathology for intraoperative frozen section. The frozen section of adnexal mass reported as suspicious for malignancy. Due to probability of ovarian malignancy, radical hysterectomy, pelvic and paraaortic lymph node sampling was done. Cytology of peritoneal washing fluid sample was normal. Histopathological results revealed nonspecific chronic endometritis, chronic cervicitis and actinomyces abscess with sulphur granules (Figure 2).

Postoperatively, the patient progressed significantly well. After definitive diagnosis, she had given a regimen of penicillin G at a dosage of 4 million units six times a day for 30 days, and then penicillin V at a dosage of 1.2 millon units twice a day for six months. At the 10th postoperative day, she was not experiencing inguinal and pelvic pain. At follow-up visit after six months, there were no signs or symptoms of infection. Relapse was not seen.

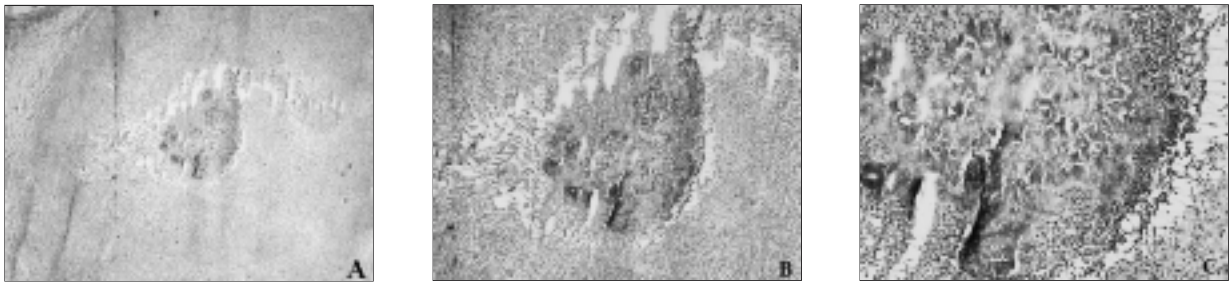

FIGURE 2: Histopathologic examination of the specimen revealed actinomyces abscess with sulphur granules. **A.** Hematoxylin and eosin stain, original magnification, x10, **B.** Hematoxylin and eosin stain, original magnification, x20, **C.** Hematoxylin and eosin stain, original magnification, x40.

DISCUSSION

Actinomycetes constitute a part of the normal flora of gastrointestinal and genital tractus.[1,2] They preferentially infect and invade previously injured or traumatized tissues. In this setting, application of IUD may compromise the tissues for actinomyces infection. The presence of actinomycetes in the genital flora varies widely, according to the literature from 0.69 -14.5%.[6] In the literature, it is stated that actinomyces colonization incidence increases two to four fold at IUD users. In a study done by Pan, 2327 women (1279 IUD users, 1048 non users) were scanned for actinomyces with the use of cervical smears.[3] Positive actinomyces-like organism detection rates in IUD users and non users were 1.1% and 0.2% respectively, which is a significant difference ($p< 0.01$). The duration of IUD usage is found to be in direct proportion with actinomyces colonization.[5-8] In addition, the actinomyces positivity also predisposes the patients for the ascending infection and pelvic inflammatory disease with polymicrobial flora, mainly anaerobes.[4,5] Removal of the IUD might not prevent actinomycetes from forming an abscess, since it can occur even if the patient is in the postmenapousal state with the device removed 18 months prior.[9,10] Although pelvic infection can manifest itself with clinical symptoms and signal a chronic infection, it may remain asymptomatic and add to the diagnostic dilemmas.[11]

In our case there was subtle infection findings, such as anemia and fatique. It mimicked an urinary tract infection and was treated as such, but a pelvic mass was later found. It is very common for actinomycetes to imitate malignancy, since they form a chronic suppurative infection with invasion and destruction.[12-17] Although it is rare; the involvement of large bowel including rectum, ureters and kidney are reported in several cases.[15-17] Our case also mimicked a pelvic malignancy with ill-defined solid and cystic areas reported in MRI. It also invaded left ureter and caused ureteral obstruction necessitating catheter placement to maintain its patency and resolve resultant hydroureteronephrosis. After its diagnosis as a malignant pelvic tumor of probably ovarian origin, preoperative procedures are completed and the case was taken into a radical operation. This diagnostic difficulty is mentioned frequently in the literature.[14-17] When an suspect adnexal mass is present, the operation is planned as if a malign ovarian tumor; it is classical procedure to perform a median laparotomy, to take the fluid if it is present, if absent, to wash abdomen and obtain fluid for cytological examination, to send frozen section from mass. At definitive or suspicious circumstances, it is essential to make pelvic paraaortic lymphadenectomy, omentectomy and appendectomy. After the final diagnosis of an actinomyces abscess, long-term therapy with parenteral and oral penicillins was instituted. We stress that, in a patient with a previous IUD history, actinomycetes should be borne in mind to overcome diagnostic difficulties. When the abscess is suspected, core needle biopsy under computed tomography or ultrasound guidance can be performed to rule out an infection of actinomyces.[12,15,18] Then a mutilating

surgical exeresis can be prevented. Apropos to this case, we also would like to emphasize the necessity of removing the IUDs to maximize the effect of antimicrobial therapy as indicated in the literature.[2,4,7,8,12,13,16,18] Antimicrobial therapy as parenteral penicillin G for 30 days followed by penicillin V for 6 months would be most appropriate regimen.

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