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Pathology Page

Pelvic Actinomycosis

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A 47-year-old woman suffered from left lower abdominal pain on and off for 1 year. She visited our gynecological outpatient department. Pelvic examination and ultrasound showed a retroverted enlarged uterus with an intrauterine device (IUD) *in situ* and a large solid cystic mass of left adhexa. Abdominal total hysterectomy and bilateral salpingo-oophorectomy were performed.

Grossly, yellowish pus-like substance occupied the left fallopian tube and an IUD inserted in the endometrial cavity were noted (Fig. 1). Histopathology showed typical sulfur granules within the abscess, diagnostic of actinomycosis (Fig. 2).

Actinomycosis is a slowly progressive suppurative fibrosing infection involving the jaw, thorax or abdomen. The disease may be caused by a number of anaerobic and microaerophilic bacteria called *Actinomyces*. There organisms are branching, filamentous, Gram-positive rods that normally reside in the human oropharynx, gastrointestinal tract, and vagina.

Actinomyces are not ordinarily virulent, and the organisms reside as saprophytes in the body without producing disease. Two uncommon conditions must occur for *Actinomyces* to establish disease. First, the organism must be inoculated into the deeper tissues, because it cannot invade. Second, an anaerobic

Fig. 1 — Grossly, an intrauterine device inserted in the endometrial cavity and yellowish sulfur granule-like substance filled the left fallopian tube.

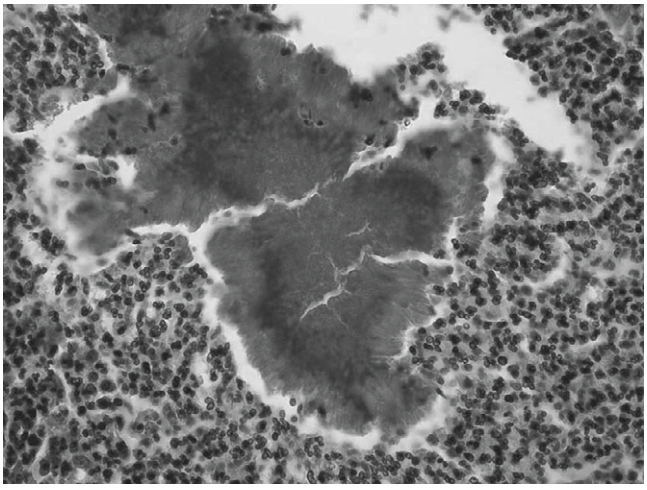

Fig. 2 — A typical sulfur granule lies within an abscess (hematoxylin & eosin, 400×).

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atmosphere is necessary for the bacteria to proliferate. Trauma can produce tissue necrosis, thereby providing an excellent anaerobic medium for the growth of *Actinomyces*, and can inoculate the organism into normally sterile tissues. Actinomycosis occurs at four distinct sites:

1. cervicofacial actinomycosis results from jaw injury, dental extraction or dental manipulation;
2. thoracic actinomycosis may be caused by aspiration of organisms contaminating dental debris;
3. abdominal actinomycosis may follow trauma or surgical disruption of the bowel, especially the appendix;
4. pelvic actinomycosis has been associated with prolonged use of IUDs mimicking ovarian malignancy clinically, such as in our case.

Actinomycosis can cause abscesses or sinus tracts. Within the abscesses and sinuses are pus and yellow colonies of organism (sulfur granules). Actinomycosis responds to prolonged antibiotic therapy, and penicillin is a highly effective drug. (*Tzu Chi Med J* 2009; 21(4):359–360)

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