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Case Report

Pelvic actinomycosis – an unusual case

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Introduction

Actinomycosis is a chronic suppurative granulomatous infection characterized by formation of abscesses, multiple draining sinuses and appearance of tangled mycelial masses or granules in the discharges and tissue sections. Actinomycotic infection in humans is a rare entity affecting cervicofacial, thoracic, abdominopelvic and central nervous system. However abdominopelvic affection is uncommon contributing to 20%[1]. Pelvic actinomycosis involving female genital tract is very rare.

Case report:

A 38-year-old female, para one, living one, presented with pain in the lower abdomen since one year and burning micturition on and off for the past two months. She gave history of poliomyelitis in childhood and is a known case of schizophrenia for the past 16 years. She had an intrauterine contraceptive device (IUCD) inserted three years back. She was admitted and treated thrice in nephrology for recurrent urinary tract infection. On examination her vital signs were normal. Bimanual gynecological examination revealed a right sided solid adnexal mass 6x6 cm and a 2x2 cm cystic mass in left fornix. A clinical diagnosis of right tubo-ovarian mass with left ovarian cyst was made and patient was investigated.

Investigations:

USG – Enlarged right ovary with two simple cysts 5cm, 2.5cm and right hydroureteronephrosis.

CA 125 – 2.7u/ml

Intra Venous Pyelography –
Rt. Hydroureteronephrosis with growth cut off of distal ureter and diverticuli of bladder (Fig.1).

In view of her pelvic pathology she was planned for diagnostic cystoscopy and ureteroscopy and exploratory laparotomy. Intra-operative cystoscopy revealed bladder trabeculations, right distal ureteric stricture and proximal dilated tortuous ureter. Ureteric DJ stenting was done. Exploratory laparotomy revealed dense intra abdominal adhesions mimicking frozen pelvis on the right side. After adhesiolysis a right adnexal tubo-ovarian mass of 6x5 cm and left ovarian cyst of 2x2 cm was noted. A pocket of pus was seen between the cervix and bladder. Supracervical hysterectomy with bilateral salpingo ovariotomy was done (Fig.2). Histopathological examination of the specimen revealed the diagnosis of actinomycotic tubo-ovarian mass (Fig.3). The patient was treated with high dose of penicillin therapy.

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Fig. 1 : Intravenous pyelography Right hydroureteronephrosis with growth cut off of distal ureter and proximal stricture, irregular bladder outline and diverticuli of urinary bladder

Fig. 2 : Cut specimen of uterus along with tubo-ovarian mass

Discussion:

Actinomyces species are gram positive filamentous bacilli which are often misclassified as fungi. These bacteria are normal inhabitants of human oropharynx, gastrointestinal tract and usually do not cause disease. However an opportunistic infection can occur if the mucosal barrier is disrupted by trauma, surgery, dental procedure, gastrointestinal perforations or aspiration, appendicitis, foreign bodies[2-6]. Among the clinical types

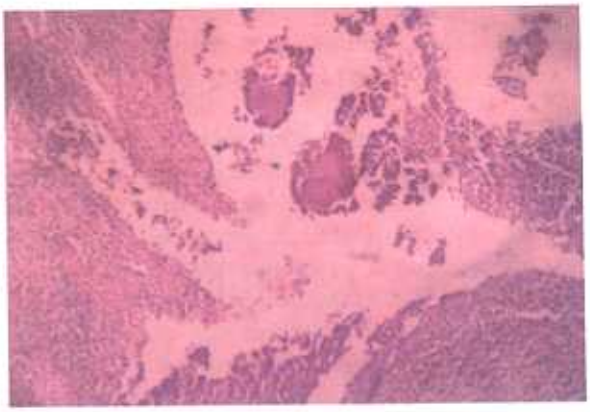

Fig. 3 : Histopathology of tubo-ovarian mass

cervicofacial actinomycosis is the commonest accounting to 50%, thoracic 15-20%, abdomino-pelvic 20%, and central nervous system actinomycosis presenting as intracranial space occupying lestons in frontal and temporal region in 3-5%[3]. The disease process is indolent in nature and is characterized by tissue destruction, fibrosis and formation of abscesses & fistula discharging characteristic sulfur granules. Actinomyces Israeli is overwhelmingly the most common human pathogen[4,5]. Female genitalia are relatively a rare site for pelvic actinomycosis[7,8].

Pelvic actinomycosis is often unsuspected clinically because of its rarity and also actinomyces normally do not inhabitant the vaginal canal. However the incidence of pelvic actinomycosis is on a rise since the past two decades. This could be attributed to the popularity of IUCDs. Direct correlation has been noted in pelvic actinomycosis with prolonged use of IUCD over 8 years[9]. In our case the duration of IUCD usage was 9 years. Interesting to note is the fact that the incidence of colonization with actinomyces depends on the type of IUCD being used. The incidence is around 20% with multi load copper IUCD (ML 375) as compared to 2.9% with levonorgestrel releasing IUCD (LNG-IUCD)[10]. Pelvic actinomycosis involving the adnexa may also be secondary to infection in gastrointestinal canal either in the appendix or in ileocaecal junction. The association of actinomycosis to foreign body like fish bone in the large intestine and wooden stick in the uterine cavity are reported[11,12]. Long forgotten tampons and pessary may also be associated with pelvic actinomycosis in women. Clinical presentation may include abdominal pain, vaginal discharge, fever, weight loss, anemia and repeated urinary infection. Pelvic actinomycosis may result in endometritis, salpingo-oophoritis, tubo-ovarian abscess or a pelvic mass. Making an

accurate diagnosis of actinomycosis is an important yet challenging task. Unfortunately a preoperative diagnosis is made in less than 10% of the cases[13].

Clinical diagnosis can be suggested by finding the characteristic surface granules in tissue section. Confirmation of diagnosis requires either anaerobic culture or species specific antibodies. Differentiating actinomycosis from nocardia is important as antimicrobial therapy is different. Modified acid fast staining technique helps to differentiate nocardia from actinomyces where the former stain is positive. Histopathology along with Hematoxylin and Eosin (H&E) stains and gram staining helps in making accurate diagnosis. Special stains like GoMon's methanamine silver, Periodic Acid Schiff, Brownbren or Maccallen Good pasture can be used[13].

Treatment of actinomycosis depends on the severity of the involvement. Medical therapy alone can achieve cure in mild cases. Role of surgical intervention is debatable. Surgical intervention is suggested in complicated disease process where malignancy cannot be excluded. An extended course of antibiotics may eliminate the need for surgery as suggested by some authors[13]. However others argue for a shorter course of antibiotics[14-16]. Ultimately clinical judgment should be advocated on a case by case basis in directing therapy. The drug of choice for actinomycosis is intravenous penicillin G at doses of 18-20 million units/day for 4-6 weeks followed by oral penicillin for 6-12 months. Chloramphenicol, clindamycin, erythromycin, tetracycline, imipenem, streptomycin, cephalosporin can be used alternatively if the patient is sensitive to penicillin. If favorable response is not seen within 4 weeks of initiation of therapy, a super infection from another bacterial source should be considered. Serial radiological imaging is recommended to asses the response to therapy[3]. Actinomycosis generally carries a good prognosis when treated expeditiously; however if treatment is delayed, extensive local involvement and complications can develop[16].

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