



Tubo - ovarian actinomycosis – a rare encounter – case report

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ABSTRACT

Female genital Actinomyces infection is relatively rare, although strongly related to long-lasting intrauterine contraceptive device (IUD) application. The infection spreads by contiguity when integrity of mucosa or epithelium is compromised, often mimicking the characteristics of a malignant neoplastic process. The complications associated with IUD use include, dissemination of Actinomyces; hepatic abscess; intracranial abscess and even death. We present a case of Tubo ovarian Actinomycosis which needs accurate diagnosis and treatment.

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Introduction

Actinomycosis is as such not a common infection in India. Common species Actinomyces israeli is a known inhabitant of the human oral cavity and intestinal tract. It is a Gram positive, non sporing, anaerobic or micro aerophilic species which gives rise to chronic infections [1]. According to many research workers, most frequently affected locations are cervicofacial; thoracic and pelvic regions [2].

Pelvic actinomycosis is a chronic suppurative and granulomatous infection, which cannot be differentiated from other Pelvic Inflammatory diseases and is commonly observed in Intra uterine contraceptive device (IUD) users [1]. The ovary is most commonly affected pelvic organ followed by fallopian tube, uterus, vulva and cervix [3].

Case report

A 35 year old woman, P₂L₁A₁, was admitted in hospital with complaints of severe lower abdominal pain and anorexia. She had a history of bleeding per vaginum with mild dragging type of pain abdomen from past 6 months. The complaints were non continuous, on and off type. History of one abortion was reported 3 years ago, after which an Intra uterine contraceptive device was inserted. The device was removed after one year. The patient had no knowledge of the type of device used and the reports were not present.

On examination patient was ill looking, pyretic and there was diffuse pain abdomen, with focal guarding over the iliac fossae. There was mild rigidity and rebound tenderness on palpation. On auscultation there were diminished and sluggish bowel sounds. General examination showed normal vital signs. Per vaginal examination was done partially (as the patient was irritable and non-co-operative) revealed minimal foul smelling dirty discharge; Cervix was healthy. Uterus appeared to be of normal size. Routine lab investigations showed Hemoglobin – 10.8 gm/dl; Total Leucocyte Count – 16800 cells/cu.mm; Peripheral smear showed normocytic normochromic anemia with Neutrophilic leukocytosis; ESR – 12 mm/1st hour; Urine routine was normal. X- ray chest and abdomen showed normal pictures. Ultrasound abdomen showed a minimal collection of free fluid in the pelvis and abdomen. With the above clinical picture, the case was diagnosed as Acute abdomen-probably due to ruptured pelvic organ and an emergency diagnostic laparotomy was done.

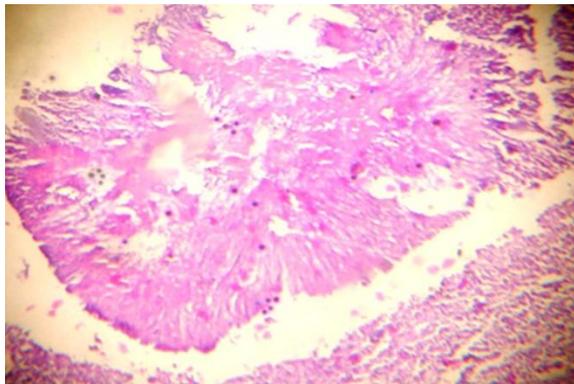
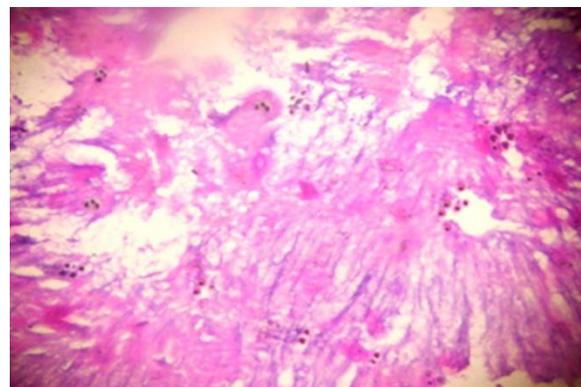


Fig 1: Actinomycosis with sulphur granules (H&E, 10X)

There was a cystic mass at the Right adnexa showing swollen and edematous Fallopian tube and cystic transformation of the ovary. The rest of the female genital organs were normal. There were no adhesions. Thus, Right salpingo-oophorectomy was done and the specimen was sent for histopathological examination. The specimen on gross examination showed a tubo ovarian mass, with tube measuring 5.5 cms in length and ovary 4.2 cms in diameter. The surface was congested and

edematous. Cut section showed thickened and edematous wall of the fallopian tube with the pus and hemorrhagic material. The ovary showed hemorrhagic; cystic degeneration. Microscopic examination showed – Fallopian tube with numerous degenerated plicae infiltrated with mixed inflammatory cells and interspersed colonies of Actinomycosis and sulphur granules. Ovary showed only degenerated ovarian tissue with corpus hemorrhagicum and focal mixed inflammatory cell infiltrate. The pus was collected during surgery from the cut end of the fallopian tube and was sent for culture. The patient was treated with conventional routine antibiotics and there was a remarkable improvement from third post-operative day. The patient was discharged at request on seventh post-operative day and was advised to attend follow up clinic once every month for at least six months. A thorough search was made for any lesions in the other common sites, but nil was observed. The patient was observed for any recurrence for six months, and no signs were seen. Thus, the case was diagnosed as Tubal Actinomycosis with the aid of histopathological examination.

Fig 2: Microscopic picture showing a colony of Actinomyces with interspersed sulphur granules(H&E,40X)



Discussion

Actinomycosis is a low prevalence disease. Its variable anatomical locations impose a diagnostic challenge to various medical specialties [4]. Other than *A.israelii*, the other rare species reported were *A.naeslundii*, *A.viscosus*, *A.meyeri*,

A.odontolyticus, *A.gerencseriae* [1]. The general circumstances and internal immunological environment of the body, changes the behavior of this organism. The spectrum of behavior varies from commensal to pathogenic type [5]. The first human case of Actinomycosis was reported by Israel in 1878[6]. The organism per se cannot penetrate the intact epithelium or mucosa. The infection spreads contiguously crossing the anatomic barriers when there is a failure in the integrity of mucous. Hematogenous spread is less common [7]. From very olden days there has been increasing number of reports of Actinomycosis in the female genital tract particularly in women using intrauterine contraceptive devices. The metallic devices have been particularly incriminated, possibly as they provide a focus for infection together with a chemical reducing action favorable for an opportunistic anaerobe such as *A.israelii* [8]. The present reports are in contrast to old ones, where *A.israelii* is seen in 1.6-11.6% of intrauterine contraceptive device users worldwide. Astonishingly the newer trend studies show that, the increasing rate of infection related to plastic Intra uterine contraceptive devices without metal or hormonal load [9].

Whatever may be the cause of the disease, it needs early diagnosis and immediate treatment in case of acute presentations. It has a rampant spread and appreciable risk of recurrence and spread. The early diagnosis can only be provided by microscopic examination of pus if any or by the histopathological examination of the infected organ. The post-operative management in this case was done accurately with the help of the histopathological report. Actinomycosis, due to the formation of a solid mass like structure is mistaken for malignant tumor [10]. The complications associated with IUD use include dissemination of Actinomyces; hepatic abscess; intra cranial abscess [11] and even death. [12] Thus, a definitive diagnosis has to be obtained by histopathological examination and culture of the pus or other fluid material. Obtaining a positive culture is difficult and time taking for Actinomycosis. Thus, histopathological examination played a major role in the present case in deriving the accurate diagnosis.

Conclusion

Though Actinomycosis is a rare cause of genital infection, the erroneous; inadvertent and improper use of Intrauterine contraceptive devices as an alternative to oral contraceptive pills with increasing use of plastic devices – is leading to its ascent, as one of the common genital infections. Thus, a thorough evaluation has to be done in all intrauterine contraceptive device users, who present with evident clinical features of pelvic inflammation, subjecting the excised tissue for histopathological examination without fail. The awareness and proper use of contraceptive devices makes Actinomycosis to remain as a rare cause of genital infection in due course of time and future.

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