Case Report

ID: JCDR/2012/4325:2338

Pathology Section

Endometrial Actinomycosis in Post Menopausal Female in the Absence of an Intrauterine Contraceptive Device: A Rare Cause of Bleeding per vaginum

SWATI SHARMA, MANNA VALIATHAN, LAKSHMI RAO, M. V. PAI

ABSTRACT

Isolated actinomycotic infections of the endometrium in the absence of Intra Uterine Device (IUD) usage is rare and only 2 cases of ovarian actinomycosis in the absence of IUD and 1 case of endometrial actinomycosis in a virgin have been reported in the literature. This case was interesting, as our patient who was post menopausal and immuno competent, presented with bleeding per vagina and was diagnosed to have endometrial actinomycosis.

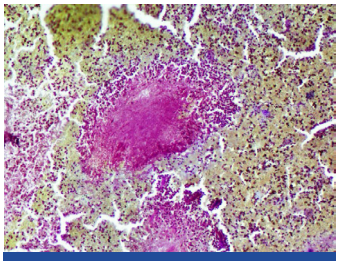
Key Words: Actinomycosis, Intrauterine contraceptive device

INTRODUCTION

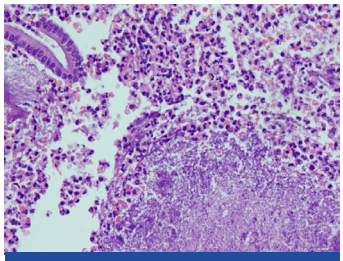
Actinomyces species are gram-positive, non-acid fast anaerobic bacteria that exhibit branching and filamentous growth. Actinomyces *israelii* is the most common subtype which has been found to cause infections in humans [1]. In healthy subjects, Actinomyces is a part of the normal flora of the oral cavity, the gastrointestinal tract, and the genital tract. A healthy mucosa acts as a barrier against the spread of the organism [2]. The uterus appears to be relatively resistant to its infection and an endometrial involvement is extremely rare. A genital infection is usually endogenous, probably through direct spread from within the abdomen, though an ascending route or an inoculation is believed to be possible in the cases which are associated with intrauterine devices, contaminated pessaries, prolapse of the uterus or criminal abortion [3]. Abdominal and pelvic infections account for 10–20% of the reported cases of actinomycosis [4].

CASE REPORT

A 52-year old female who had been post menopausal for 9 years, presented with bleeding per vaginum since 4-5 days. She had no history of foul smelling or blackish discharge per vagina. She was not sterilized and she had no history of the use of any IUD or any surgical interventions or diabetes. On general physical examination, no significant positive finding could be obtained. The patient was afebrile. On speculum examination, the cervix was found to be flushed with vault with bleeding through the os. The vaginal examination revealed an atrophic uterus and the fornices were free. The parametrium was found to be free on the per rectal examination. The haematological and the biochemical tests were unremarkable, with a single high value of TSH. The pap smear was Negative For Intraepithelial Neoplasia (NILM). Ultrasonography showed the size and the echotexture of the uterus to be normal, with an endometrial thickness of 2mm. No focal mass lesion was noted. The bilateral ovaries could not be visualized and there was no adnexal mass lesion. The chest X-ray and ultrasound of the abdomen were normal. An endometrial sampling was done. Multiple, irregular, grey brown to haemorrhagic tissue bits which weighed 2 gms were received, which microscopically showed fragmented endometrial glands which were enmeshed in areas of fibrin, haemorrhage and large actinomycotic colonies which were surrounded by a neutrophilic infiltrate [Table/Fig-1]. The gram staining was characteristically positive [Table/Fig-2].



[Table/Fig-1]: Actinomycotic colonies surrounded by neutrophils



[Table/Fig-2]: Gram positive Actinomycotic colonies

The patient was started on the injectable antibiotic, augmentin 1.2gm BD for 1 week and was advised to thereafter continue on oral amoxicillin 500mg TID for 3 months. In view of the high TSH, she was put on T. Thyronorm. A repeat TSH after 2 weeks and a review were advised. Now, the patient is continuing the treatment. There are no gynaecological complaints and she has been advised a review after the completion of the treatment.

DISCUSSION

Actinomycosis has been called “the most misdiagnosed disease”, and it has been said that “no disease is so often missed by experienced physicians” [2]. The Actinomyces bacteria are considered to be saprophytes in the oral cavity, throughout the gastrointestinal tract and in the female genital tract. Actinomycosis is a chronic abscess forming disease which is predominantly caused by *Actinomyces israelii*. The pathologic presentations of actinomycosis include cervicofacial (50% of cases), abdominal (20%), thoracic (20%), and pelvic involvement (15%). The destruction of the mucosal barrier by trauma, operations, immunosuppression and chronic inflammatory disease has been recognized as the predisposing factor for the

penetration of the bacteria. There has been a significant change in the epidemiology of the actinomycotic infections over the past decades due to use of IUDs [2].

A vast majority of the reports of actinomycosis, internationally, over the years, have been from intra-uterine contraceptive device users. The earliest and the largest study on women who were screened for actinomycosis by doing the cervical Papanicolaou smears, was done in the USA in the year 1982, on 69,925 smears. The organism was identified in the IUD users. The prevalence of actinomycosis among the IUD wearers ranged from 16% (in the general population) to 5% (in the clinical population) [5].

Kayikcioglu F et al [1] and Carkman S [2] described various studies where the actinomycosis infection in women was found to be associated with the use of IUDs. Actinomycosis was seen only in a tiny percentage (in 2 of 17,734 cervical smears) of those without an intra-uterine device in situ [5] and hence Actinomyces colonization of the female genital tract was regarded as a rare event in women who were not users of IUDs.

In our patient, there was no history of the use of IUDs or any surgical procedures. Sanjay et al., [6] described an unusual case of ovarian actinomycosis in a 35-year-old female without IUD use and with clinical features which were suggestive of an appendicular lump. Burlando et al [7] reported a case of ovarian abscess which was caused by actinomycosis in the absence of IUD in 2001. Eun Jung Ji et al., [8] described an unusual case of endometrial actinomycosis in a 21 year-old female with no history of sexual intercourse, admitted with menorrhagia. She had received hormonal treatment. Abdominal ultrasonography showed an endometrial thickening. The pre-diagnosis was endometrial hyperplasia. The endometrial biopsy showed actinomycosis. However, in our case, the endometrium was thin.

The detection rate of Actinomyces in patients with pelvic actinomycosis is as low as 2%. The diseases which are caused by the Actinomyces spp. are often difficult to diagnose. The diagnosis of actinomycosis can be confirmed by culture. However, it is often difficult to culture Actinomyces [8]. The culture medium should be strictly anaerobic and it takes between 14 and 21 days to establish a diagnosis. Such a specific culture request is not often made if the diagnosis is not suspected. The negative culture rate has been reported to be 76% [2]. Therefore, a diagnosis of actinomycosis can be made from the finding of sulfur granules within the inflammatory exudates on histologic examination or on the Papanicolaou smears [8]. Histologically, suppurating abscesses with subsequent necrosis and dense fibrosis are usually seen in actinomycosis. The abscess cavities grow in size and they have avascular thick walls. The organism initially create dense adhesions with contiguous structures due to their extensive fibrosis and in the late stages, it can produce internal or external fistulae [9].

To conclude, our case is rare and interesting, as endometrial actinomycosis is seen in a post-menopausal female and as it is not associated with an IUD or any surgical intervention. This case report also emphasizes that endometrial actinomycosis can be a rare cause of post menopausal bleeding per vaginum, and that hence it should be considered as a possibility.

REFERENCES

[1] Kayikcioglu F, Akgul MA, Haberal A, Demir OF. Actinomycosis infections in the female genital tract. *Eur J Obstet Gynecol Reprod Biol* 2005;118:77-80.

[2] Carkman S, Ozben V, Durak H, Karabulut K, Ipek T. Isolated abdominal wall actinomycosis associated with an intrauterine contraceptive device: a case report and review of the relevant literature. *Case Reports in Medicine* 2010;1-4.

[3] O'Brien PK. Abdominal and endometrial actinomycosis associated with an intrauterine device. *CMA Journal* 1975;112: 596-97.

[4] Vodovnik A, Logishetty K. Actinomycosis complicating sigmoid diverticular disease: a case report. *Cases Journal* 2009;2:6456.

[5] Evans DTP. Actinomyces israelii in the female genital tract: a review. *Genitourin Med* 1993;69:54-59.

[6] Marwah S, Marwah N, Singh I, Singh I, Gupta A, Jaiswal TS. Ovarian actinomycosis in the absence of an intrauterine contraceptive device: an unusual presentation. *Acta Obstet Gynecol Scand* 2005;84: 602-03.

[7] Burlando SC, Paz LA, De Feo LG, Benchetrit G, Rimoldi D, Predari SC. Ovarian abscess due to actinomyces sp. in the absence of an intrauterine contraceptive device. *Medicina (B Aires)*. 2001;61:577-80.

[8] Ji EJ, Son HY, Kim SN, Lee YW, Chang JH, Chung JY et al. A case of endometrial actinomycosis in a virgin. *Korean J Obstet Gynecol* 2007;50:1581-85.

[9] Coban A, Yetkin G, Kebudi A. Abdominal actinomycosis: a case report. *Acta Chir Belg* 2002;102:521-23.

AUTHOR(S):

1. Dr. Swati Sharma
2. Dr. Manna Valiathan
3. Dr. Lakshmi Rao
4. Dr. M. V. Pai

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Pathology, KMC, Manipal, India.
2. Professor, Pathology, KMC, Manipal, India.
3. Professor, Pathology, KMC, Manipal, India.
4. Professor, Obstetrics and Gynecology, KMC, Manipal, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Swati Sharma
Department of Pathology, Center of Basic Sciences,
Kasturba Medical College, Manipal 576104, Karnataka.
Phone: 9964499424
E-mail: swatisharma79@yahoo.co

FINANCIAL OR OTHER COMPETING INTERESTS:
None.

Date of Submission: **Mar 23, 2012**
Date of Peer Review: **Apr 23, 2012**
Date of Acceptance: **Jun 12, 2012**
Date of Publishing: **Aug 10, 2012**