

ACTINOMYCES-LIKE ORGANISMS IN CERVICAL SMEAR

Arora Kalpana*

MD (pathology), KB Bhabha Hospital, Mumbai, Maharashtra, India.
*Corresponding Author

Dr Bharose Pooja

MBBS, KB Bhabha Hospital, Mumbai, Maharashtra, India.

Dr Patil Sanjay

MD (pathology), KB Bhabha Hospital, Mumbai, Maharashtra, India.

ABSTRACT

Actinomyces is a Gram-positive, branching, filamentous bacteria. Actinomyces-like organisms rarely appear on routine Papanicolaou (PAP) cervical smears. We report a rare case of actinomyces-like organisms detected on Papanicolaou (PAP) smear.

KEYWORDS : Actinomyces, Papanicolaou smear, organisms

INTRODUCTION

Actinomyces is a Gram-positive, branching, filamentous bacteria. [1] Actinomycosis results in chronic suppurative inflammation of the organs involved. [1] Actinomyces-like organisms rarely appear on routine Papanicolaou (PAP) cervical smears. However, it is reported that the rate of positive actinomyces-like organisms appearing on cervical smears is about 7% in women with an IUD and the incidence varies according to the type and duration of IUD used [2]. The positive finding of actinomyces-like organisms on the cervical smear is neither diagnostic nor a predictor of pelvic actinomycosis. Thus, asymptomatic patients are recommended to be managed expectantly [1,3]. However, some clinicians remove the IUD or prescribe antibiotics to treat the incidentally found actinomyces-like organisms. We report a rare case of actinomyces-like organisms detected on Papanicolaou (PAP) smear.

CASE REPORT

A 50 year old woman visited the gynaecology outpatient department with complaint of white discharge for last two week. Her obstetric history was P2 L2. She had delivered her youngest child 20 years ago. There was no history of Intrauterine contraceptive device (IUCD) insertion. Her routine laboratory tests were normal. Papanicolaou (PAP) smear was prepared and was sent for cytopathology examination. PAP smear fulfilled the Bethesda adequacy criteria. It showed superficial and intermediate squamous cells along with a colony of Actinomyces-like organisms. *Actinomyces-like organism* was seen as dense, basophilic, central aggregations surrounded by radially oriented, filament-like structures (Figure-1,2). There were plenty of neutrophils in the background. It was interpreted as Negative for intraepithelial lesion or malignancy with organism actinomyces according to 2014 system of Bethesda reporting.

DISCUSSION

Actinomyces normally reside in the female genital tract. [1,2] The favourable environment of anaerobes might be established inside the vagina, facilitating the growth of actinomyces. In some cases, PID or pelvic abscesses related to actinomycosis are observed in women who have been using an IUD for a long time [4]. But as commensal organisms in the female genital tract, actinomyces cannot be a predictor or diagnostic factor for actinomycosis, only because of the identification of actinomyces in cervical smear.

Therefore the identification of actinomyces by cytology after cervical Pap smears is not diagnostic nor predictive of any disease because the actinomyces normally reside in the female genital tract. In the absence of symptoms, patients with actinomyces-like organisms on a Pap test do not need antimicrobial treatment or IUD removal. Nevertheless, women

choosing an IUD for contraception should know that there is very low risk of developing the infection in later years after insertion.

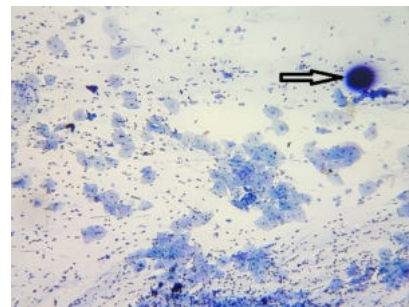


Figure 1- Shows superficial and intermediate squamous cells with neutrophils and a colony of Actinomyces (arrow) (Pap, x100)

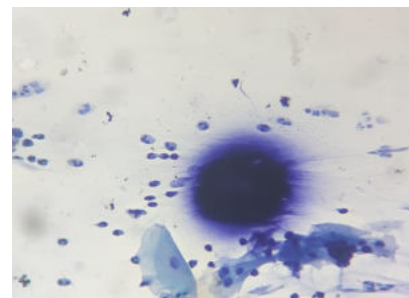


Figure 2- Actinomyces showing dense, basophilic, central aggregations surrounded by radially oriented, filament like structures (Pap, x 400)

REFERENCES

1. Yeo Joo Kim, Jina Youm, Jee Hyun Kim and Byung Chul Jee. Actinomyces-like organisms in cervical smears: the association with intrauterine device and pelvic inflammatory diseases. *Obstet Gynecol Sci.* 2014 Sep; 57(5): 393–396.
2. Mali B, Joshi JV, Wagle U, Hazari K, Shah R, Chadha U, et al. Actinomyces in cervical smears of women using intrauterine contraceptive devices. *Acta Cytol.* 1986;30:367–371.
3. Westhoff C. IUDs and colonization or infection with Actinomyces. *Contraception.* 2007;75(6 Suppl):S48–S50.
4. Chatwani A, Amin-Hanjani S. Incidence of actinomycosis associated with intrauterine devices. *J Reprod Med.* 1994;39:585–587.