



## FAMILIAR PATHOGEN IN AN UNFAMILIAR SITE

### KEYWORDS

Vaginitis, normal flora, pathogen

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### ABSTRACT

**INTRODUCTION:** The female genital tract is colonized with microorganism either in health or in disease status. Vulvovaginitis is a common clinical condition accounting for one third of cases seen in general practice. **CASE REPORT:** A 35 year old married female reported to OG OPD with intermittent lower abdominal pain with white discharge P/V. The discharge was mucoid, non-itching. High Vaginal Swab was taken & sent to the laboratory. It grew alpha hemolytic colony on Chocolate agar. **CONCLUSION:** Absence of any intra uterine device and gynecological intervention proves beyond any doubt that this is a pathogen causing vaginitis.

### INTRODUCTION:

The female genital tract is inhabited with microorganism either in healthy condition or in disease status as in vaginitis. Vulvovaginitis is a common clinical condition accounting for one third of cases seen in general practice. <sup>(1)</sup> There are other non infectious irritants which can cause inflammation. <sup>(2)</sup> The disease of vulvovaginitis can be evoked by mixed infection. Therefore it becomes necessary to document the etiological agent microbiologically, for the effective treatment of the condition.

Bacterial vaginosis is associated with Bacteriodes, Streptococcus and Mobiluncus. In the case of associated intra uterine contraceptive device there can be infection of genital tract with actinomycetes <sup>(3)</sup>. In association with puerperal infection it is Peptostreptococcus<sup>(4)</sup>.

Genital infection can also occur due to systemic complication as in case of Neisseria, Treponema pallidum, Chlamydia trachomatis, Haemophilus ducreyi.<sup>(5)</sup> Therefore isolation, characterization and documentation of the clinical sample from the genital tract infections become very vital for the evaluation and management of the patient.

### CASE REPORT

A 35 year old married female reported to OG OPD with lower abdominal pain on and off for 6 months duration with white discharge P/V of 2 year duration. The discharge was mucoid in type, non-itching. Her Menstrual cycle was 3-5/ 30 days with moderate flow with LMP -20 days.

Treated elsewhere with ciproflox, Metrogyl oral tablets and vaginal suppositories containing Metronidazole and Cotrimoxazole. She used to get temporary relief only. She was not a diabetic.

O/H- Married for the past 14 yrs, P2L2, sterilised, PA-PS scar seen. P/S- CX congested, mucoid discharge (+), Endocervicitis (++) , Uterus retroverted (normal size) FF, U/S- Uterus- 6.5 × 4.6 × 3.8 cms. Fluid seen in POD (Pouch of Douglas).

### Clinical diagnosis of PID was made.

### RESULT:

High Vaginal Swab was taken & sent to the Microbiology laboratory. the sample was received in the lab, sample was inoculated into Mac conkey agar, blood agar, chocolate agar and the later two were incubated in 5% CO<sub>2</sub> for 24-48 hours at 37°C and a gram smear was also prepared .

The culture showed heavy growth of alpha hemolytic colony on Chocolate agar with, scanty growth on Blood agar in 24 hrs incubation, no growth was observed on Mac-conkey agar. The smear showed the presence of capsulated lancetolate shaped gram positive diplococcus which was correlating with the growth <sup>(6)</sup>.

Further characterization of the colonies was done using bile solubility and optochin susceptibility tests. Bile solubility test induced lysis of the organism with 2% sodium deoxycholate, while the optochin susceptibility test showed a zone of inhibition of 16mm with a 6 mm of 0.5 µg optochin disk. So a confirmatory diagnosis of Streptococcus pneumonia was made as per NCCLS<sup>7</sup> and repeat sample was taken from the patient for further confirmation. Second sample also yielded the same bacterial growth and blood culture taken simultaneously proved to be negative, to rule out the possibility of systemic infection. Patient was started on penicillin after giving test dose, and in the follow up patient improved with vaginal discharge getting reduced.

### DISCUSSION

The normal flora of the vagina varies in pH with age, before puberty the secretion is not acid, the pH is 6.5-7.5 the flora consist mainly of Staphylococcus, Streptococcus, Diphtheroids and Coliforms. During the reproductive age group the vaginal pH is acid and lactobacilli predominates, there are various other organism like enterococci, Streptococcus other than Streptococcus pyogenes, Diphtheroids, Coliforms, Bacteriodes, anaerobes, yeast, Mycoplasma and

Ureplasma. <sup>(8)</sup> After menopause it again becomes alkaline and there is drying, atrophy of vagina.

The detection of any microbe other than the above mentioned micro organisms, in repeated samples with clinical symptoms proves to be a pathogen for the localized infection without any systemic manifestation.

**"HERE WE REPORT FOR THE FIRST TIME IN INDIA THE ASSOCIATION OF GRAM POSITIVE DIPLOCOCCI IN VAGINITIS IN A REPRODUCTIVE FEMALE PATIENT"**

The isolate which grew only in both the enriched media Blood agar and Chocolate agar showed alpha hemolytic, draughtsman colony morphology, optochin sensitive, bile solubility test positive & typical gram positive lanceolate shaped diplococci in gram stain which helped us to make a confirmed conclusion of streptococcus pneumonia.

Streptococcus pneumonia has been documented as a transient vaginal flora which predispose to pelvic infection specially in the presence of IUCD, recent birth or any gynecological surgery <sup>(9)</sup>. It is also known to cause Bartholinitis in reproductive age group <sup>(10)</sup>. It is also reported as a cause of

urethritis <sup>(11)</sup>.

It is the first time in our nation; we report Streptococcus pneumonia in association with vaginitis. This patient has been having this clinical condition for almost 2 years with irregular treatment and not relieved of her symptoms. The two samples taken grew the same isolate (Fig 1 & 2) with negative blood culture confirming the diagnosis of pneumococcal vaginitis which is a rare etiological agent for vaginitis.

#### **CONCLUSION:**

The absence of any intra uterine contraceptive device, sterilization scar and no gynecological intervention proves beyond any doubt that this is a pathogen causing vaginitis. So pneumococci not only cause meningitis, pneumonia, otitis media, peritonitis, keratitis but also vaginitis.

**CHANGING SCENARIO CHANGES NOT ONLY THE PATHOGEN BUT ALSO CHANGES TRANSIENT FLORA INTO A PATHOGEN!!!**

As proved by our study!!!

#### **REFERENCE**

1. Dykhuizen RS, Harvey G and Gould IM. The high vaginal swab in general practice: clinical correlates of possible pathogens. *Family Practice* 1995; 12: 155-158. | 2. Schaaf VM, et al. The limited value of symptoms and signs in the diagnosis of vaginal infections. *Arch Intern Med* 1990; 150: 1929-1933. | 3. Spiegel CA. Bacterial Vaginosis. *Clin Microbiol Rev* 1991; 4: 485-502. | 4. Washington Winn, Jr, Stephen Allen, Elmer Koneman et al. Koneman's color atlas and Textbook of Diagnostic Microbiology, 6th Edition, Publisher- Lippincott Williams and Wilkins: 88-89. | 5. Sevitha Bhat, Nilica Devi, Shalini Shenoy. Microbiological profile of vaginal swabs. *Journal of Evolution of Medical and Dental Science* 2012; 1(4): p-509-513. | 6. J.G. Collee, A.G. Fraser et al. Mackie and McCartney Practical Medical Microbiology, 14th Edition, Publisher-Churchill Livingstone-Elsevier: 275-281. | 7. Clinical and Laboratory Standards Institute (CLSI). 2010. Performance standards for antimicrobial susceptibility testing; twentieth informational supplement. CLSI M100-S20. Clinical and Laboratory Standards Institute, Wayne, PA. | 8. Betty A. Forbes Daniel F. Sahm Alice S. Weissfeld, Bailey and Scott's Diagnostic Microbiology, 10th Edition, Publisher-Don Ladig: 363-369. | 9. Westh H, Skibsted L et al. Streptococcus pneumonia infections of the female genital tract and in the newborn child. *Rev Inf Dis* 1900; 12: 416-422. | 10. Mehmet Koroglu, Yusuf Yakupogullari et al. A Case of Urethritis Due to Streptococcus pneumonia. *Sexually Transmitted Disease*. 2007, Vol.34, No. 12, P.1040. | 11. S. Parvathi, Amany S, et al. Bartholinitis caused by Streptococcus pneumonia: Case report and review of literature. *Indian Journal of Pathology and Microbiology*. 2009, vol.52 (2), p-265-266. |