



Prospective Study on the Microbiological Profile of Vaginosis Among Women of Reproductive Age Group

KEYWORDS

Bacterial vaginosis, Candidiasis, Symptomatic vaginal discharge, Women in reproductive age.

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ABSTRACT **Introduction:** Symptomatic vaginal discharge is the most frequent symptom in women of reproductive age group. Owing to social stigma majority of affected women hesitate to seek medical consultation. Symptomatic vaginal discharge is caused by inflammation due to infection of the vaginal mucosa. **Aims and objectives:** The aims of the present study was to identify vaginosis among women of reproductive age group and to detect the prevalence of bacterial, parasitic and fungal causes of vaginosis and also to rule out Candidal infection in women. **Materials and methods:** This was a descriptive type of observational study, conducted in sexually active women of reproductive age group (18-48years) attending the OPD of Obstetrics and Gynecology Department of DM WIMS Hospital, MEPPADI, WAYANAD, over a period of 3months (October 2015 – January 2016). Vaginal specimens were collected from patients with symptomatic vaginitis. Wet mount examination was done to identify motile *T.vaginalis*, and Gram staining for finding out budding yeast cells. All vaginal specimens were cultured for aerobic bacterial isolates using standard microbiological Diagnostic methods. Antimicrobial Susceptibility was performed using disc diffusion technique as per the standard by Kirby-Bauer method. The results were analyzed using spss... version. **Results:** A total of 100 samples were collected from women with complaints of vaginitis. Out of the 100 cases studies 49 cases showed significant vaginal infections. Out of the 49 cases only 31 cases had Bacterial vaginosis and 18 cases had vaginal Candidiasis. The proportion of vaginal infection was higher in non-pregnant than pregnant women. The bacterial isolated identified were *Streptococcus pyogenes* (10, 32.3%) *Staphylococcus aureus* (8, 25.8%), and *E.coli* (8, 25.8%) *Klebsiella* (3, 9.7%) *proteus vulgaris* (2, 6.4%). Out of the 18 candidal isolates 11 were *candida albicans*, 3 were *candida tropicalis* and 4 isolates could not be speciated. **Conclusion:** The common bacterial etiology of vaginosis was identified as *Streptococcus Pyogenes* which is followed by *S. aureus* and *E. coli*. The fungal etiology was identified as Candidiasis. Out of 100 Women with symptomatic vaginal discharge Significant growth was obtained in 49% of cases. 31 percent patient had Bacterial Vaginosis 19% Patients had Vaginal Candidiasis. Significant growth was obtained in 18-28 age group (47%) it is followed by age group 29-38years (44%).

INTRODUCTION

Vaginosis is the inflammation and infection of vagina commonly encountered in clinical medicine.¹ Abnormal vaginal discharge, itching, burning sensation are frequent complaints among patients attending obstetrics and gynecology clinics and it is one of the most frequent infections in women of reproductive age². About 75% of women experience at least one episode of vaginitis during their life time and asymptomatic vaginal carriers were 10%-20%; this may be up to 40% during pregnancy³.

Bacterial vaginosis is the most common cause of vaginitis. Bacterial vaginosis is characterized by raised vaginal pH and milky discharge in which normal vaginal flora is replaced by mixed flora of aerobic, anaerobic and micro-aerophilic species. The aim of this study was to determine the prevalence of bacterial, fungal and parasitic causes of vaginosis in women of the reproductive age group.

MATERIALS AND METHODS

The study was carried out in the Department of Microbiology, DM Wayanad Institute of Medical Sciences, Wayanad, Kerala, India, over a period of 3 months from October 2015- January 2016. A total of 100 samples were collected from patients attending the gynecology ward with complaints of vaginitis. The study participants were in the age group of 18-48 years. Patients who are already on antibacterial and antifungal treatment were excluded from the study.

Samples were collected along with a detailed Proforma after getting consent. Wet mount and Gram staining were carried out to identify motile *T.vaginalis*, budding yeast cells and clue cells. pH was measured and all specimens were cultured for aerobic bacterial isolates using standard microbiological methods. Antimicrobial Susceptibility was performed using disc diffusion technique as per the standard by Kirby-Bauer method and the results were analyzed.

RESULTS
Out of the 100 Patients studied with clinical manifestations of vaginosis, 11 samples came negative without showing growth, 40 samples showed the growth of lactobacilli and other normal flora and 49 samples showed significant

growth and evidence of infection. 44 samples showed pure growth and 5 samples showed mixed growth. Out of the different isolates 34(64.15%) were bacteria. 19 (35.84%) were candida species. No Parasitic causes were detected. (Table/Figure-1).

The most common infectious agents were Candida species (19%). It is followed by Bacterial agents *Streptococcus species* 10 (29.41%), *staphylococcus aureus* 8 (23.52%), *E.coli* 8 (23.52%), *Klebsiella species* 3 (8.82%), *Proteus* 2 (5.88%), *Acinobacter* 1(2.94%), *CONS* 1 (2.94%), *Pseudomonas*1 (2.94%).

A total of 19, different Candida isolates. Among these 11 were *Candida albicans* (57.89%), and only 3 were *Candida tropicalis* (15.78%).

In this study 17 antibacterial drugs were tested. Antibacterial drug sensitivity testing was done by modified Kirby Bauer Disc Diffusion method. Antibiotic sensitivity test revealed Sensitivity to Gentamicin (69.23%) Clindamycin (57%) Amoxycylav(50%). And resistance to Cotrimoxazole (61%), Ampicillin (30 %)

Out of 100 samples processed inflammatory cells are seen in direct microscopy in 38 cases and yeast cells in 21 cases. Among 49 patients with vaginitis, 47 were in the age group of 18-28 years. 44 were in the age group of 29-38 years this was followed by the age group of 39-48 years (Figure4)

CONCLUSION

This study revealed the high prevalence of *Candida albicans* as the cause of vaginosis and 19 (34.84%) of women were affected with vaginal Candidiasis.

Bacterial vaginosis was noted among 34 (64.15%) of cases and streptococcus species was the predominant pathogen isolated. 49% of women were suffering vaginosis among this 15 (30.6%) were in pregnancy.

The prevalence of vaginosis was mostly seen in women with the age group 18-28 years (47%) which was followed by 29-38 years (44%), with age group 39-48 years (9%). Amoxicillin, Clindamycin Co-Trimoxazole is the recommended drugs for Bacterial vaginosis and Miconazole, Tinidazole Metronidazole for vaginal Candidiasis. In this study the most sensitive Antibacterial drug was Gentamicin (69%) followed by Clindamycin (57%), Amoxycav(50%).

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