

Original Research Article

To Assess the Incidence of Microbiological Profile in Sexually Transmitted and Non-Sexually Transmitted Diseases in Women

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Abstract: The morbidity and mortality of reproductive tract infection or sexually transmitted infection are high in associated with various health issues in developing countries including India. The present work was aimed to determine the incidence of sexually transmitted and non-sexually transmitted disease in women. A total 240 females with various genital tract infections were considered for microbiological work. Samples of female vaginal discharge were collected under advice of gynaecologist. Microbiological results of females having vaginal discharge shows 22.5% candida albicans and other candida species. Bacterial infections such as staphylococcus aureus (10%), Escherichia coli (3.33%) and Trichomonas vaginalis (2.5%), Klebsiella species (4%), Aspergillus Niger (2.5%) and Proteus species (1.66%).

Keywords: Sexually transmitted disease, Candida albicans, Genital tract infections, bacterial infection.

INTRODUCTION

Reproductive tract infection including sexually transmitted disease and HIV are being increasingly recognized as a serious public health problem in developing countries [1, 2]. Reproductive tract infection troubles both men and women but their consequences are far more divesting among women [3, 4]. Reproductive tract infection often go undiagnosed and untreated, pelvic inflammatory diseases, ectopic pregnancy, miscarriage, cervical cancer and increasing the risk of HIV transmission [5].

Adolescent and early adults are vulnerable to Reproductive tract infection due to their ignorance of risk factor, inadequate accessibility to service and social power houses [6]. Women carry a heavy burden of reproductive morbidity. Reproductive tract infection (RTIs) especially, sexually transmitted infection cause a wide spectrum of pathology, in women with vaginitis, cervicitis, salpingitis, pelvic inflammatory diseases (PID), ectopic pregnancy, infertility and also prematurity, still birth. Since even the non-ulcerative STI increase the risk of HIV transmission by 3.5 folds [7]. The present study was conducted to assess the incidence of microbial infections in women with sexually transmitted and non-transmitted diseases.

MATERIALS AND METHODS

The present study was conducted to examine the female genital tract infection held in Department of Microbiology in associated with Department of Gynaecology in Rajiv Gandhi institute of medical sciences, Ongole. A total 240 females with various genital infections were included in this study. The detail clinical, demographic and family history was collected. Physical and gynaecological examination was done. For microbial work, samples of female vaginal discharge were collected, under advice of gynaecologist. The females, who had examine by the Physician & Dermatologist, for medical check-up, related to suspect HIV infection & also for skin genital lesion, blood was collected for the serological investigations.

RESULTS

The present study includes 240 females with mean age of 30.7 years. Among the patients 89% are housewives and rest of are working (11%). 73% females having regular periodic menstrual cycles, 11.6% females had irregular cycles, 9.6% are pregnant and 4% are in menopausal stage.

Table 1: Distribution of sign observed in patient (n=240)

Signs observed	Number	Percentage
Homogenous white discharge (HWD)	60	25
Green yellow frothy discharge (GYF)	8	3.3
Curdy white discharge (CWD)	80	33.3
Mucopurulent discharge (MPD)	50	20.8
Strawberry vagina(SV)	4	1.66
Cervicitis	8	3.33
Cervical erosion	30	12.5

Table 2: Various microbiological infection (Microbiological culture report).

	Number	Percentage
No growth	74	30.8
Bacterial Vaginosis	48	20
Candida albicans & others	54	22.5
Chlamydia	6	2.5
Staphylococcus aureus	24	10
Klebsiella Spp.	10	4
Escherichia Coli	8	3.33
Proteus Spp.	4	1.66
Aspergillous Niger	6	2.5
Trichomonas vaginalis	6	2.5
Total	240	100

Table 3: Correlation of Homogenous white discharge (HWD) and gram stain for Bacterial vaginosis

Clinical sign	Gram stain		
	Positive	Negative	Total
HWD present	36	24	60
HWD absent	12	168	180
Total	48	192	240
Sensitivity	75%	PPV	60%
Specificity	87.5%	NPV	93.3%

Table 4: Correlation of Curdy white discharge (CWD) and Gram stain for Candidiasis

Clinical sign	Gram stain and culture for Candidiasis		
	Positive	Negative	Total
CWD present	52	28	80
CWD absent	02	158	160
Total	54	186	240
Sensitivity	96.2%	PPV	65%
Specificity	84.9%	NPV	98.7%

DISCUSSION

Humans can be exposed to the number of organisms, the course of infection depends upon the number of factors like pathogenicity of organism, the host susceptibility and immune response. Disease pattern may vary, depending on the environment, economic situation, nutritional status, social behaviour and local health care systems.

In a study by Bhalla P. *et al* on vaginal discharge in reproductive age women, majority were between 25-39 years (>30 years of the age 63%) and Nessa S. *et al* on sexually transmitted infection and reproductive tract infection (RTI) among hotel based sex workers found majority (82%) between 18 to 25

years [8, 9]. In present study out of 240 females having a history of vaginal discharge 82.5% were of age duration between 21- 40 years. According to WHO, in Indonesia by 2005, 80% of HIV infection was in age group of 21- 40 years. Study by Mbu E. *et al* on HIV infection among pregnant women found majority of (58%) were age of 20-29 years [10]. In present study females having history of HIV-I and II infection, maximum age group was 21-40 years shows similar age duration of HIV infection.

In present study *Candida albicans* was isolated in 19% cases which is correlating with the studies by Jain *et al* (21.5%), Jindal N *et al* (74.4%) and Sobel J. *et al* (25%) in women having vulvovaginal infection [11,

12]. Its rate of isolation was in present study co-relating. In this study 10% staphylococcus aureus which is comparable with a study by Richard L Sweet (5-10%) [13].

On the basis of gram stain the co-relation of the homogenous white discharge (HWD) with laboratory diagnosis of vaginosis infection showing the sensitivity 75% and the specificity 87.5%. The positive predictive value of HWD to find positive cases was 60% while negative predictive value was 93.3%. Out of 27 isolated Candida Species, 23 were germ tube test positive and they were identified as Candida albicans. On basis of gram stain, the co-relation of Curdy white discharge and the lab diagnosis of Candida showing sensitivity 96.2% and specificity 84.9%. The PPV was 65% and NPV was 98.7% (Table 1, 3, 4).

CONCLUSION

The present study was carried to detect the rate of microbiological infection in sexually transmitted and non-sexual transmitted diseases. The most common symptom was vaginal discharge followed by abdominal pains with homogenous white discharge, curdy white discharge and green yellow discharge. Candida albicans, gram positive cocci, staphylococcus, gram negative bacilli Enterobacter, fungus aspergillus and trichomonas were found. In relation to urinary tract infection, Escherichia, Klebsiella and proteus identified with burring maturation.

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