

REPRODUCTIVE TRACT INFECTION (RTIS) RESULTING IN TO GYNECOLOGICAL MORBIDITY

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Conflict of interest: Thesis of Ph.D

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Title: *Reproductive tract infection (RTIs) resulting in to Gynecological morbidity*

Abstract:

Background: *Reproductive tract infection (RTIs); including Sexually transmitted disease and Non sexually transmitted disease are being increasingly recognized, as a serious public health problem. RTIs causes suffering of both men and women, but their consequences are far more divasting and wide spreads, among women. Adolescent ignore the risk factor. Women carry a heavy burden of reproductive morbidity.*

Method: *To detect the incidence of microbiological infection, sexually transmitted infections i.e. Gonorrhoea, Bacterial vaginosis, Trichomonas and non sexually transmitted infections in women attending to tertiary care centre, Ahmadabad, from March 2005 to March 2006. Vaginal /cervical swabs were collected and microbiological investigation, including microscopy and culture sensitivity test were carried out from 120 females.*

Result: *Vaginal discharge (100%) was most common symptom reported, followed by infections (36.6%), lower abdominal pain (27.5%) and other miscellaneous symptoms like, Genital itching, foul smelling, cervicitis, abortion, genital ulcer, tender cervix, tender PV and tender fornix were from 3.3 to 0.8%..*

In microbiological results of female's vaginal discharge, Candida albicans and other Candida spp.(22.5%), Staphylococcus aureus (10%), Escherichia coli (3.33%), Klebsiella spp.(4%) and Proteus spp.(1.66%), Aspergillous niger (2.5%) Trichomonas vaginalis infection (2.5%), Bacterial vaginosis (20%) were found.

Conclusion: *In present study, infection of fungi, bacterial were commonly found, Escherichia coli, Klebsiella spp. and Proteus spp. identified with symptoms of burring maturation due to relation to urinary tract.*

Key words: *Reproductive tract infections, Bacterial vaginosis*

Introduction:

Within annual incidence of 340 million STI cases globally endogenous and iatrogenic infection of reproductive tract (RTI) are considered a global Public Health Issue^[1]. In resource poor countries, 75-80 % of new cases of RTI occur. RTI are among the five most common health problems leading to contact with health system^[1]. RTI entail a heavy fall on women in untreated

there can lead to pelvic inflammatory Disease(PID) which can cause long term sequel such as tubal infertility and Ectopic pregnancy^[2,3]Bacterial vaginosis, candidiasis & Trichomonas are responsible for majority of vaginal infection in women of reproductive age.

Abnormal vaginal discharge, burning sensation, irritation & discomfort are frequent complains among a patients attending Obstetrics & Gynecology clinics. However number of (Reproductive) Vaginal infection present with few or no symptoms ^[4]

Candida vaginitis (CV) is one of the most frequent infections in women of reproductive age. Approximately 75% of adult women will have at least one episode of vaginitis by *Candida spp* during their life time ^[5-4].

Trichomonal vaginitis (TV) is the most common sexually transmitted disease ^[6] It is caused by parasitic protozoa *T vaginalis* globally. TV affects approximately 57-180 million people with majority living in developing countries ^[7].However in most TV is asymptomatic in women TV effects more frequently between 20-40 years& is quite rare puberty & post-menopausal age ^[6].The symptoms of TV are mainly characterized by vaginal discharge with gray or greenish-yellow fluid rather frothy, foul-smelling intense itching, edema cervix redness, the sensation of itching dyspareunia & post-coital bleeding, pelvic pin & urinary symptoms ^[5,65].

Bacterial Vaginosis is the most common cause of abnormal vaginal discharge among women of reproductive age. The prevalence of BV is about 30% in women of reproductive age.BV is characterized by raised vaginal PH & milky discharge in which normal vaginal flora of aerobic and anaerobic organism like *Gardenerella vaginalis*, *Provotella spp.*,*Mycoplasma hominis*, *Mobiluncus spp.* Colonize predominantly in BV ^[6,8]Gonococcal infection is the second most common prevalent sexually transmitted bacterial infection causing substantial morbidity worldwide each year.

Gonorrhoea is a potent amplifier of the spread of sexually transmitted human immune deficiency virus (HIV) ^[9].

Reproductive infection has been identified for a smaller proportion of women whose microbiota (Lactobacilli) is dominantly by facultative anaerobic or aerobic bacteria especially *Staphylococcus aureus*, Group B *Streptococci*, *E coli* & *Klebsiella spp.* ^[6, 8]

Various etiology of Reproductive tract infection results in number of Gynecological complication. Therefore the purpose of this cross sectioned study was to determine the prevalence of common reproductive tract infection in reproductive age women attending at antenatal care & Gynecology clinics of tertiary care centre Ahmedabad.

Material and method:

The present study, 120 females were examined for genital tract infections, at department of tertiary care centre Ahmedabad from March 2005 to March 2006.A detail clinical history and followed, by Physical, abdominal and gynecological examinations were carried out, by Gynecologist.

To detect RTIs, two samples of vaginal /cervical discharges were collected and process in department of microbiology. One swab for wet film,(to detect, *T vaginalis*, yeast cells and clue cell), Gram stain, Giemsa stain (Chlamydal inclusion), Z.N stain, KOH mount (fungal and whitt test) & India ink. Second swab was collected in Stuart transport medium, for culture report. Routine and special media were streaked for bacterial and fungal culture. On second day, culture media were examined for specific growth & each colony were identified by Motility, Gram stain,

KOH Preparation & Conformation of organism, various biochemical tests (Coagulase test, oxidase test, IMViC test, Sugar fermentation test, assimilation test) were carried out.

Observations:

Total 120 females, suffering from various problems were examined, for microbial infection. All females had history of vaginal discharge (100%), followed by infections (36.6%), lower abdominal pain (27.5%), genital itching (12%). Foul smelling, cervicitis, abortion, genital ulcer, tender cervix, Tender PV, Tender fornix was observed (from 3.3% to 0.8%). In generalized symptoms, burning maturation (31.6%) was the highest during examination. Vomiting (2.5%), fever (1.6%) and giddiness, anorexia, pain in knee, dropping urine were also found (0.8% each). The most common type of discharge was curdy white discharge (33.3%), followed by homogenous white discharge (25%) & muco-purulent discharge (20.8%). Cervical erosions (12.5%), Green yellow frothy discharge (3.3%), cervicitis (3.3%) and strawberry vagina (1.66%) were found.

Table: Various microbiological infection (Microbiological culture report)

	No.	Percentage
No growth	37	30.8%
Bacterial Vaginosis	24	20%
<i>Candida albicans & others</i>	27	22.5%
<i>Chlamydia</i>	3	2.5%
<i>Staphylococcus aureus</i>	12	10%
<i>Klebsiella spp.</i>	5	4%
<i>Escherichia coli</i>	4	3.33%
<i>Proteus spp.</i>	2	1.66%
<i>Aspergillous niger</i>	3	2.5%
<i>Trichomonas vaginalis</i>	3	2.5%
TOTAL	120	100%

Microbiological results show 22.5% *Candida albicans* and other *Candida spp.* (*Candida albicans* (19%) germ tube positive, *Candida glabrata* (1.66%), *Candida tropicalis* (1.66%)). *Staphylococcus aureus* (10%), *Escherichia coli* (3.33%), *Klebsiella spp.* (4%) and *Proteus spp.* (1.66%), *Aspergillous niger* (2.5%) and *Trichomonas vaginalis* infection (2.5%), Bacterial vaginosis (20%), (on Nugent's score, based on gram stain vaginal smear) were found.

Discussion:

Vaginal discharge & the lower abdominal pain were 27.5% where as other study, Gupta et al (2002), Howker et al (1999) & Ruchika Rajan et al (2003), reported 29% to 85.6% and 20.3% to 60.4% respectively. Genital itching was comparatively low (12%) in percentage rate. Only one female shows (0.8%) the genital ulcer correlates with Howker et al (1999).

Amongst all the cases we had isolated *Candida albicans* (19%) and *Staphylococcus aureus* (10%) were correlate with Jindal N et al (2007) and Sobel J & Chaim W et al (1996) from 21.5% to 74.4% and Richard L. Sweet(1985) (10%)) respectively.

Rate of *Trichomonas vaginalis* (2.5%) microscopically correlate with other study (Madhivanan P, Krupp K et al (2008), Nessa K Waris et al (2004) and Nagaraja P et al (2008) (1.5% to 8.2%)).In case of Chlamydia only Giemsa stain for inclusion body was carried out, no conformation test was carried out.

Conclusion:

The rate of microbiological infection, including Sexually Transmitted Diseases and Non Sexual Transmitted Disease, in this population was as under:

The Vaginal discharge was predominant presenting symptom, followed by abdominal pains with sings of curdy white discharge, homogenous white discharge and green yellow discharge. Amongst the organisms *Candida species* were most common followed by Gram positive cocci, *Staphylococcus* spp, Gram negative bacilli *Enterobacter* spp, Fungus *Aspergillous* spp and *Trichomonas* spp.

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