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INCIDENCE OF CANDIDIASIS AND TRICHOMONIASIS IN LEUCORRHOEA PATIENTS

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ABSTRACT

Objective: Aim of the present study was to know the incidence of candidiasis and trichomoniasis in women of childbearing age complaining leucorrhoea. **Methods*:*** Vaginal swabs collected from each patient were processed immediately for hanging drop, wet mount and 10% KOH mount preparations; and gram stain. Culture was done on Sabouraud's Dextrose Agar. *Candida* isolates were identified by germ tube test, chlamydospore formation, sugars fermentation and assimilation tests**. Results:** Out of 50 cases included in this study, 17 cases (34%) were negative for both *Candida* and *T. vaginalis. T.vaginalis* was present in 3 cases (6%) and *Candida* in 26 cases (52%). Mixed infection by both was present in 4 cases (8%). *C.albicans* was the commonest candida species (83%) causing leucorrhoea. Leucorrhoea was more common in 31-35 years old and who came from rural areas. Low back pain and pain in the lower abdomen was the most common associated clinical feature. **Conclusion*:*** Present study reveals that candidiasis and trichomniasis are the most common cause of leucorrhoea.

Key words: leucorrhoea, Candida, T. vaginalis

INTRODUCTION

Leucorrhoea is the most common complaint among sexually active women of childbearing age in primary health care (1). Physiological leucorrhoea does not need medical intervention. However leucorrhoea with profuse quantity, foul smell, with changes in its colour or with blood seek immediate medical assistance. It is a symptom associated with many illnesses and having varied aetiology. It is difficult to treat because the signs and symptoms are not specific for any single underlying cause (2). Infection of vaginal mucosa by *Trichomonas vaginalis* and *Candida* is the most common cause of leucorrhoea .These are treatable as well as preventable causes as both these infections are transmitted sexually. Although 25 % of both the infections are asymptomatic (3, 4), chronic inflammation would be an anticipated progression to dysplasia if it remains unresolved (5, 6). There is an association between *T.vaginalis* and the risk of cervical neoplasia (7). Chronic trichomoniasis can cause complications like pelvic inflammatory disease and infertility.

AIM

The present study was undertaken to know the incidence of candidiasis and trichomoniasis in married, non-pregnant, nondiabetic women of childbearing age presenting with leucorrhoea in north coastal Andhra Pradesh.

MATERIAL AND METHODS

A prospective study of 62 consecutive married, non-pregnant women attending Out Patient Department (OPD) of Gynaecology in MIMS general hospital from June to August 2010 with complaint of leucorrhoea was done. Written consent was taken from them. All of them gave the history of their sexual partner as their spouse.
Exclusion Criteria: age less than 16 years and more than 45 years, diabetes mellitus, sole

cervical erosion, cervical growth, endometrial and myometrial growth, unmarried and pregnant women.

Specimen Collection: Cusco's speculum was introduced without lubricant. Vaginal discharge was collected in the posterior blade and was taken by 3 cotton swabs. These were transported and processed immediately.

Processing: One swab collected in normal saline was used to prepare Hanging drop preparation immediately in the Gynaecology OPD. With the second swab direct wet mount, 10 % KOH mount and Gram stained smear were prepared. Sabouraud's Dextrose Agar medium with gentamycin was inoculated with the third swab and incubated at 37 degree centigrade for 48 hrs. *T.vaginalis* was identified by its motility in hanging drop and wet mount preparations; in gram stained smear as gram negative, variable shape, with eccentric lenticular nucleus and foamy cytoplasm, slightly larger than a leucocyte(8). *Candida* isolates were subjected for species identification as *Candida albicans* by germ tube test, chlamydospore formation in cornmeal agar medium and growth at 42 degree C. Other *Candida species* were identified by sugars fermentation and sugars assimilation tests (9).

RESULTS

Out of 62 cases presented with leucorrhoea, 12 cases were excluded (sole cervical erosion=6, Cervical polyp=1, fibroid uterus=5) and 50 cases were included in the study.

Clinical profiles included Age- 19 –45 years, Weight- 40 – 57 Kgs **,** Rural background- 48 cases (96%), Urban background- 2 cases (4 %), Low back pain with low abdominal pain- 37 cases (74 %)**,** Pruritus vulvae- 30 cases (60 %)**,** Foul smell discharge- 19 cases (38%)**,** Burning micturation-14 cases (28%)**,** Pallor- 7 cases (14%)**,** Per speculum examination- curdy discharge with white flakes- 28 cases, strawberry mucosa- 3 cases

Out of 50 patients, 17 cases (34 %) were negative for both *Candida* and *T.vaginalis*. Only *T.vaginalis* was present in 3 cases (6%) and only *Candida* in 26 cases (52%). Mixed infection by both was seen in 4 cases (8%).Out of 30 cases of candidiasis, 23 cases (77%)were detected by gram stain, 28 cases(93%) by wet mount preparation and 30 cases by culture(100%).All seven cases of trichomoniasis were detected by both wet mount preparation and gram stain. *Candida albicans* was the commonest species isolated accounting for 83 % of the isolates (25 out of 30).

Follow up: Out of 50 patients, 24 patients were treated for candidiasis, 3 patients were treated for trichomoniasis and 4 patients for both. Partners were treated by the same regimen directly or indirectly through the clients. All of them were asked for a follow up after 7 days. Repeat test was done in 26 patients after 7-15 days. All of them were negative for both *Candida and T.vaginalis.*

DISCUSSION

In the present study highest incidence of leucorrhoea was seen in the age group of 31-35 years (34%) followed by 21-25years old (26%). N.Jindal et al from Amritsar has reported a consistent increase in the incidence of leucorrhoea from second to fourth decade of life. This could be because of sexual activity, which is at its peak during this age (10). Most of the women with leucorrhoea presented to Gynaecology OPD with low back pain and pain in the lower abdomen (74%) in our study. Pruritus vulvae was the second common clinical presentation (60%) followed by foul smelling discharge (38%) and burning micturation (28%) in the present study. In a study from Mumbai by Dr.Sampda Rajurkar,Seth G.S.Med. College & KEM hospital, most common symptom associated with leucorrhoea was Low back pain (71.4%) followed by foul smelling discharge (40.3%) and itching (35.3%) (11).Where as a study from Southern Iran had reported commonest clinical manifestation in leucorrhoea patients to be itching (57%) followed by local irritation (30%) and dysparaunea (24%) (12).Out of 50 samples tested, 17(34%) cases were negative for both *Candida and T.vaginalis.* Twenty six samples (52%) were positive for Candidiasis and 3 cases (6%) were positive for Trichomoniasis. Mixed infection by *Candida* and *T.vaginalis* was seen in 4 cases (8%) in our study. In a study from India by Poria VC et al., *Candida* accounted for 29.33% (by culture) and *T.vaginalis* accounted for 20%(by wet mount preparation) of leucorrhoea(13).Studies from

abroad also revealed similar incidence of Candidiasis in leucorrhoea patient. Abauleth R.et al from France had reported incidence of Candidiasis and trichomoniasis as 29.4% & 6.9% respectively (14). In a study of leucorrhoea in Tibetan community by Dai Q et al, the incidence of candidiasis and trichomoniasis was found to be 6.5% & 2.5% respectively (15). Low rate of incidence in their study is due to their decision to include both symptomatic and asymptomatic women.

All the seven cases of Trichomoniasis were reported from women with rural background in our study, but Tanuja Chakraborty et al from Surat has reported higher incidence of Trichomoniasis in urban women than rural women (16).We could not detect any case of Trichomoniasis in urban women. This may be due to inclusion of few numbers of (only 6 number) cases from urban background in our study. *T.vaginalis* is the cause of acute vaginitis in 5-50% of cases, depending on the population studied (17).

Out of 50 women with leucorrhoea, 49 of them gave the history of first occurrence where as only one had recurrent infection in the present study. This is in accordance with the finding that recurrent vulvovaginitis is rare & occurs only in less than 5% of the population (18).

In our study, *C.albicans* was the commonest species isolated (83%), followed by *C.tropicalis*(7%)and *C.guielliermondi*(3.3%),*C.krusei*(3.3%),*C.parapsilosis*(3.3%).Poria VC et al reported an isolation rate of *C.albicans* to be 56.8%. In their study, *C.tropicalis* is the most common non-albicans species accounting for 20.4% of the isolates (13).Whereas N.Jindal et.al reported *C.glabarata* as the most common non-albicans species (11%) in their study and *C.albicans* accounted for (74.4%) of the isolates (10). According to Linda French et al *C.albicans* accounts for 80-90% of patients with vulvovaginal candidiasis*;* and among the non-albicans species, *C.glabrata* is the most common species reported (18).

In the present study, mixed infection by both *Candida* and *T.vaginalis* was seen in 4 cases. Mixed infection is possible as both share a common route of transmission (sexually transmitted) and several pathogens may coexist (2). Although wet mount preparation is having a sensitivity ranging from 40-75%(18), in our study wet mount preparation was having a sensitivity of 93% and Gram stain was having a sensitivity of 77% for detection of *Candida* infection.

CONCLUSION

- Leucorrhoea was commonly seen in women who came from rural areas.
- Prevalence of candidiasis (60%) was found to be much higher than trichomoniasis (14%).
- *C.albicans* contributed for 83% of candidiasis.
- Leucorrhoea was commonly seen in 31-35 years old.
- Low back pain and pain in the lower abdomen was the most common associated clinical features.

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Table No. 1: Age distribution of patients with leucorrhoea.

Age in years	No. of patients
16-20	2
20-25	13
26-30	6
31-35	17
36-40	6
41-45	6
Total	50

Table No. 2: Clinical features associated with leucorrhoea (n=50)

Signs & symptoms		No. of patients positive
1.	Low back pain with pain in the lower abdomen	37
2.	Itching (pruritus vulva)	30
3.	Foul smelling vaginal discharge	19
4.	Burning and increased micturition	14
5.	Leg or calf pain	9
6.	Loss of weight	7
7.	Pallor	7
8.	Breathlessness	7

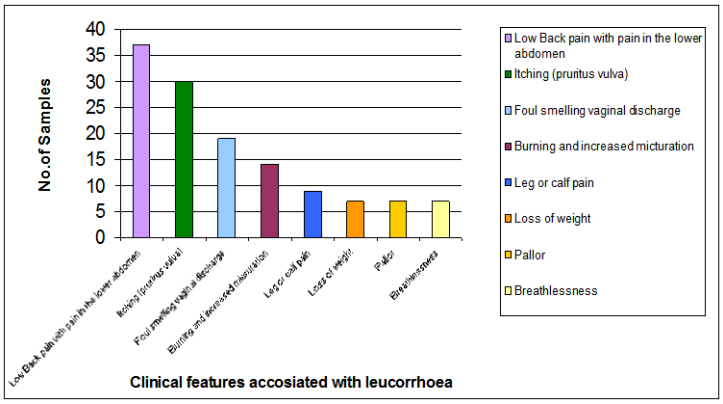

Table No. 3: Distribution of aetiological agents (n=50)

Type of infection	Total No. of Sample tested	No. of sample positive	%
Candidiasis	50	26	52
Trichomoniasis	50	3	6
Both (candiiasis and Trichomoniasis)	50	4	8

Table No. 4: Distribution of pathogenic organisms according to area.

S.NO	AREA	No. of patients	Only *Candida*	Only *T.vaginalis*	Both
1	URBAN	6	5	0	0
2	RURAL	44	21	3	4
3	TOTAL	50	26	3	4

Table No. 5: Types of Candida Species

S.No	*Candida* species	No. isolated	Percentage (%)
1	*C.albicans*	25	83
2	*C.tropicalis*	7	7
3	*C.guilliermondii*	6	3.3
4	*C.krusei*	6	3.3
5	*C.parapsilosis*	6	3.3

Table No. 6: Percentage positive of *Candida* by different methods of detection.

	Gram stain	Wet mount	Culture
No. of Cases	23	28	30
Percentage	77%	93%	100%

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