VULVOVAGINAL CANDIDIASIS AND ITS TREATMENT WITH TOPICAL MICONAZOLE

by

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Introduction

Worldwide attention has been focussed on the rising incidence of clinical candidiasis in the last three decades. This upsurge has followed the use of broad spectrum antibiotics, steroids and immunosuppressive drugs.

Candida can give rise to lesions affecting various body systems, and occasional cases of widespread disseminated bloodborne candidal disease leading to death have been reported. However, the candidal manifestations which an obstetrician is required to treat are essentially vulvo-vaginal candidiasis and neonatal thrush.

Material and Methods

The present study was undertaken on 200 pregnant and 100 non-pregnant women complaining of leucorrhoea at a public hospital, and a group of 60 pregnant women from a private clinic were included for comparison of certain aspects of pathogenesis of the disease. These cases were analysed in details to determine the incidence and etiopathology of vulvo-vaginal candidiasis.

In a selected group of 48 culture positive women detailed mycological analysis inclusive of smears, wet mounts, cultures, subcultures and biochemical fermentation tests were carried out to identify the candida species. The candidal sensitivity was tested against standard antifungal antibiotic discs. These women were instructed to use 2% topical miconazole cream with an Ortho's vaginal applicator in the dose of 1 application at bedtime for 15 days. The response to therapy was evaluated at 3 and 6 weeks intervals after completion of therapy to determine clinical and mycological response.

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Results

1. *Incidence of Candidiasis*

The incidence of vulvo-vaginal candidiasis observed in the present study was higher in pregnant women as compared to non-pregnant women. Amongst the pregnant women the incidence observed in women of higher socio-economic status in private practice was higher than in poorer women seen in public hospitals.

Incidence of Candidiasis in 360 cases (Table I):

The incidence of vulvo vaginal candidiasis observed in the present study was similar to that reported by other Indian authors as shown in Table II.

TABLE I
Incidence

Group	Description of cases	No. of cases	Candida positive cases		
			No.	% incidence	
1.	Pregnant women (Lower socio-economic class)	200	60	30%	35%
2.	Pregnant women. (Higher socio-economic class)	60	32	53%	
3.	Non-pregnant women.	100	16	16%	

TABLE II
Comparision of Incidences of Vulvo-vaginal Candidiasis

Authors	% Incidence of Candidiasis	
	Pregnancy	Non-pregnant state
Amonkar (1959)	—	8.8%
Sathyavathi (1960)	31.3%	—
Daftary *et al* (1960)	48%	36%
Das and Sen (1967)	35%	26%
Malhotra *et al* (1960)	30%	14%
Menon (1959)	34.2%	22%
Present series (1975)	35%	16%

2 *Clinical Analysis*

The analysis of the clinical data of the cases studied revealed that age and parity did not influence the occurrence of the disease. However a study of the socio-economic background revealed that the incidence was almost double amongst women seen in private clinics as compared to women in public general hospitals. Women of the higher social status usually consume diets rich in calories and carbohydrate contents. These women are also in a habit of using cosmetics and perfumes. All these factors contribute to a high prevalence of disease.

An analysis of our cases on basis of religion did not yield any significant result.

A detailed study to determine the role of possible predisposing factors contributing to candidal disease revealed the following (Table III).

TABLE III
Predisposing Factors

(a) Prediabetes and diabetes	8 cases
(b) Antibiotic therapy	3 cases
(c) Steroid therapy	3 cases
(d) Previous prolonged use of oral contraceptive pills	2 cases
(e) Obesity	6 cases

The physical examination of the 360 cases in the present study revealed the following associated causes contributing to leucorrhoea and occurrence of disease (Table IV).

TABLE IV
Associated Lesions

Associated Cause	No. of cases	Per cent
1. Cervical erosion	48	45.3%
2. Trichomoniasis	18	17.1%
3. Non-specific vaginitis	22	20.6%
4. Genital prolapse	9	8.5%
5. Pallor and anaemia	20	19.6%

Mycological Analysis

In 48 culture positive cases of leucorrhoea and vulvual pruritus, a detailed laboratory analysis of the discharge was undertaken. This included study of wet mounts, KOH smears. culture on Sabouraud's medium and Sabouraud's broth, Subcultures on corn-meal agar and biochemical fermentation tests. The cultures on Sabouraud's medium were tested for sensitivity against standard drug sensitivity discs of Amphotericin B, Hamycin and Nystatin. The results showed the following drug sensitivity response.

The response to Hamycin and Nystatin was similar and superior to Amphotericin B. (Table V).

All the 48 culture positive women were treated with single bed-time, intravaginal applications of 2% topical Miconazole cream for 15 days. The clinical and mycological response to therapy was evaluated 3 and 6 weeks after completion of therapy. The results of evaluation were as under (Table VI).

A satisfactory clinical response to therapy was often observed within 72 hours of commencement of therapy. However, after a full course of treatment, 6 patients still continued to have some mild symptoms. Thus the clinical cure rate was 92%. All these cases were culture negative at the first check-up.

The mycological response to therapy in the present study is detailed below:

TABLE V
Sensitivity

Antibiotic Disc	Sensitivity Response				% Favourable response
	Nil	+	++	+++	
Amphoterician B	9	9	22	8	65%
Hamycin	8	8	8	24	72%
Nystatin	5	8	9	26	76%

TABLE VI
Response to Miconazole

Clinical response of vulvo-vaginal candidiasis to Miconazole

Symptoms	Before Therapy	At 1st Check-up	At 2nd Check-up
Leucorrhoea	48	6/48	6/48
Pruritus	44	2/48	4/48
Dysuria	26	0/48	1/48
Erythema & Ulcers	8	0/48	0/48

TABLE VII
Response to Topical Miconazole

Candida type	No. of cases treated	Negative at 1st Check-up	Negative at 2nd Check-up	Re-infection
C. albicans	38	38	35	3/38
C. krusei	4	4	4	0/4
C. tropicalis	3	3	2	1/3
C. stellatoidea	3	3	3	0/3

Mycological response to Topical Miconazole—

Table VII shows that a 100% culture cure was obtained at the end of 3 weeks of completion of therapy. However at the 2nd check-up 3 weeks later, 4 culture positive discharges were obtained. In 3 cases C. albicans was obtained and 1 case yielded C. tropicalis.

Summary and Conclusions

1. A study of 360 cases complaining of leucorrhoea revealed an incidence of 35% candidiasis amongst 260 pregnant women and of 16% amongst 100 non-pregnant women.

2. The incidence of candidal disease was higher amongst women of the higher socio-economic class.

3. Age, parity and religion did not influence the occurence of disease.

4. Nystatin and Hamycin were found to be superior antifungal agents as compared to Amphotericin B.

5. The clinical response to topical Miconazole was prompt. Ninety-two per cent of patients were symptom free after a 15 day course of therapy.

6. A mycological evaluation of the discharge showed that the patients were culture negative at the end of 3 weeks of therapy. However in 6.2% a reinfection was observed 6 weeks after completion of therapy.

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