Comparative Analysis of Systemic Versus Local Antifungal in the Treatment of Vaginal Candidiasis: A Prospective Study

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Index Terms- vulvovaginal candiasis, clotrimoxozole, fluconazole

I. INTRODUCTION

Vaginal candidiasis is one of the commonest gynaecological disorder encountered in prepubertal, pubertal, reproductive and perimenopausal life of women. This particular entity contributes to the maximum burden in gynaecological out patient department. Roughly 72% women have vaginal candidiasis once in their life and recurrence is common (Bero 2005). This particular disease is known to cause intense pruritis disabling women in her day to day life.

Plenty of anti-fungals are available for oraland intra-vaginal treatment of uncomplicated vulvovaginal candidiasis in the form of imidazoles, nystatin, clotrimoxozole, fluconazole etc. Various RCTs have been conducted to compare the efficacy of one antifungal over the other. In ourstudy we too have tried to compare the efficacyof oral fluconazole with vaginal clotrimoxozole.

The primary objective of this study was to assess the relative effectiveness of oral versusintra-vaginal anti-fungals for the treatment of uncomplicated vulvovaginal candidiasis.
The secondary objectives were –

- To assess the cost-effectiveness of both the drugs
- To assess various side effects and safety of both

-To look into the reasons which route of administration of antifungal has a better compliance.

Inclusian Criteria

- Trial compared an oral anti-fungal with an intra-vaginal anti-fungal.
- Subjects were non pregnant women (aged 16 years or more) with uncomplicated vulvovaginal candidiasis.
- The diagnosis of vulvovaginal candidiasis was made by clinical examination and mycologically (i.e. a positive culture and/ or microscopy for yeast).
- Subjects who were HIV positive, immunocompromised, pregnant, breast feeding or diabetic were excluded from the study.
- The primary outcome measure was clinical cure.

Key words:

II. MATERIAL AND METHODS

Present study was carried out in the department of Obstetrics and Gynecology of Sri Guru Ram Rai Institute of Medical Health Sciences, Dehradun, Uttarakhand, India. The study was prospective and was conducted over the period of one and half years. Total 200 subjects were included in the study. Two groups of 100 women each were made. One group received oral fluconazole tablet 150 mg each as a single dose therapy. Second group received vaginal pessary of clotrimazole 100mg once daily at bed time for 6 days. Patients were followed after 10 days as short term assessment (first follow up visit). Later second and third follow up was done after fortnight of first and second follow up as long term assessment. Relief in symptoms and clinical examination for negative candidial discharge was taken as criteria for cure of the disease.

III. RESULTS

The distribution of age, parity and socioeconomics status in both the groups can beseen in table I.

Table I : Distribution of age, parity and socioeconomic status of women

Groups	Age	Parity	* Socioeconomic Status				
			Low	Low Middle	Middle	Upper Middle	Upper
I	<20 yrs	P0	1	2	0	1	0
	20-40 yrs	P0	10	9	5	6	5
		P1	7	8	5	4	5
		P2	4	6	5	1	2
		P3	4	5	6	2	1
	>40 yrs	P2	2	2	1	1	2
		P3	2	1	2	1	0
II	<20 yrs	P0	3	1	0	1	0
	20-40 yrs	P0	12	6	2	5	4
		P1	5	10	2	2	5
		P2	6	4	4	1	0
		P3	4	5	1	1	3
	>40 yrs	P2	2	2	1	0	3
		P3	2	1	1	0	1

*Socioeconomic Status - per capita income per month Low - <500 Low Middle - >500-<1000 Middle - >1000-< 1500 Upper Middle - >1500-<2000 Upper - >2000

Majority of the women suffering from vaginal candidiasis were of reproductive age group with parity 1 & 2. Sixty three percent women were from low & low middle socioeconomic status in both the groups.

The symptoms with which the women with candidiasis presented were –

Symptoms	Group I	Group II
Vaginal itching alone	16	11
Vaginal discharge alone	18	20
Vaginal soreness	42	39
Vaginal itching with thick curdy white vaginal discharge	10	12
Severe vaginal irritation , discharge and lower abdominal pain	6	8
Oral white patches with vaginal itching	8	10

Most of the women presented with thick curdy vaginal discharge with itching.

Women with group one received oral fluconazole and group two received vaginal suppositories of cotrimazole. There were demonstrated how to insert the vaginal tablets.

On their first follow up after 10 days (shortterm assessment) the cure of the disease wasseen as follows table III.

Table III: Cure of disease

Symptoms / Clinical Examination	Group I	Group II
Complete relief	98	46
Partial relief	2	47
No relief	0	7

Complete relief was considered when women was asymptomatic and clinical speculum examination revealed no discharge. Partial relief was when some symptoms were still present and speculum examination revealed persistence of some curdy discharge. Complete relief was seen in group I (98%) significantly much more as compared to group II (46%). Also in group It here was not a single women belonging to the 'no relief' group. Duration of relief of symptoms was comparatively lesser in group I who received the oral therapy as compared to group II with vaginal therapy.

Table IV: Duration of cure

Duration of Symptoms Relief	Group I	Group II
3 days	86	26
4-6 days	11	36
>6 days	3	38

% patients came back for follow up in the first visit. 97% and 96% came back for second follow up in group one and two respectively.

For the third follow up visit 82% of group I and 86% of group II came back. Out of 86% who came back after third visit 19 women still had complaints of vaginal itching and discharge.

Table V: Compliance of patients for follow up

Follow up visit	Group I	Group II
Ist visit (after 10 days)	100	100
2nd visit (after 15 days of 15% visit)	97	96
3rd visit (after 15 days of 3rd visit)	82	86

Different side effects were seen in both the groups however the symptoms which hampered the women's day to day life were more in group II.

Table VI : Side effects of oral versus vaginal therapy in candidiasis

Side effects	Group I	Group II
Nausea and Vomiting	2	-
Giddiness	2	2
Vaginal burning & soreness	-	21
Excessive vaginal dischare	2	12
Vulval itching	-	12

IV. DISCUSSION

Various trials have been conducted to compare the efficacy of various antifungals with each other. Two trials reporting three comparisons were found in the update. Nineteen trials are included in the review, reporting 22 oral versus intra-vaginal anti-fungal comparisons. No statistically significant differences were shown between oral and intra-vaginal anti-fungal treatment for clinical cure at short term (OR 0.94, 95% CI, 0.75 to 1.17) and long term (OR 1.07, 95% CI, 0.82 to 1.41) follow-up. In one study no statistically significant differences for mycological cure were observed between oral and intra-vaginal treatment at short term. However there was a statistically significant difference for long term follow-up. In our study however even in short term follow up systemic antifungal (fluconazole) was not found to be better as compared to vaginal clotrimazole. In a study by Hiroshige et al (1995)a total of 150 women with clinical and mycological evidence of vaginal candidiasis were randomized to receive 50 mg of oral fluconazole daily for 6 days (50 women), a single oral 150 mg dose of fluconazole (50 women), or 100 mg of intravaginal clotrimazole daily for 6 days 50 women). They were assessed at 5-15 days (short-term assessment) and again at 30-60 days (long-term assessment) after the completion of treatment. The rates of clinical effectiveness were 92% or 88% in the 6-day oral fluconzaole group, 80% or 76% in the single oral fluconazole group, and 72% or 58% in the intravaginal clotrimazole group at the short-term or long-term assessment, respectively. Treatment related side effects were not found in any group. An additional Cochrane review comparing oral vs. intra-vaginal anti-fungal treatments found no difference between clotrimazole and fluconazole or itraconozole for clinical cure at long (2 to 12 weeks) or short term (5-15 days) follow up (Watson et al 2001).

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