

## CLOTRIMAZOLE & ECONAZOLE IN THE TREATMENT OF VAGINAL CANDIDOSIS IN PREGNANCY

By

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### SUMMARY

A single blind study of one hundred pregnant women with vaginal candidosis was undertaken to compare treatment with clotrimazole (100 mg. pessary x 6 nights) and econazole (150 mg pessary x 3 nights). Cure rates at first follow up were 50% for clotrimazole and 66% for econazole and at second follow up were 44% and 62% respectively. There was no significant difference in the effectiveness of the two drugs and both were equally acceptable to the patients and no side effects were reported.

### Introduction

Of the various antifungal agents, imidazole derivatives are commonly employed in the treatment of vaginal candidosis (Gabriel and Thin 1983; Bingham, 1984 and Bradbeer and Thin, 1985). However, scanty literature is available where these drugs have been tried in vaginal candidosis in pregnancy, which needs to be treated urgently since the newborn is likely to develop oral thrush (Jennison, 1966). It was therefore decided to undertake comparative evaluation of clotrima-

zole and econazole (the two imidazole derivatives) in vaginal candidosis in pregnant women.

### Material and Methods

One hundred non-diabetic pregnant women, receiving no antibiotics but having symptoms or signs or both of vaginal secretions for candida and negative smears for *Trichomonas vaginalis* were included in this study. A high vaginal swab collected from each patient was cultured on Sabouraud's dextrose agar slope with Streptomycin and Penicillin. Incubation was done at 37° for 48 hours and identification of pathogenic candida was done by

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Mackenzie's serum tube technique.(1962) Using a random numbered sequence (Bradford, 1972) patients were given either one 100 mg clotrimazole pessary for 6 consecutive nights or a 150 mg econazole pessary for 3 consecutive nights. Each patient was instructed in the insertion of pessaries and was asked to reattend after one week of initiation of the treatment and subsequently two weeks after the first follow up. At each follow up visit, signs and symptoms were reassessed and vaginal swab collected for microscopic examination and cultured for candida.

### Results

Of the one hundred patients studied, 50 were treated with clotrimazole and 50 with econazole. Their ages ranged between 17 to 40 years and 69% were in their third decade of life. Seventy-six percent were multiparous and 96% were in their later half of pregnancy. In 86% haemoglobin level was below 10 gm.%.

Data on their age, parity, duration of pregnancy, symptoms, signs and culture examination are compared in Table-I.

Mycological and symptomatic response is shown in Table II. The cure rates for clotrimazole were 50% at first follow up and 44% at second follow up whereas the figures for econazole were 66% and 62% respectively. There was no significant difference between these two results.

### Disussion

The cure rate with clotrimazole, when used in a dose of 100 mg for 6 nights was only 50% which is far below the 90% or above cure rate reported in the literature (Masterton, 1975. Kassis, 1979 and Bingham, J.S.1984). This figure further fell to

**TABLE I**  
DATA ON AGE, PARITY, DURATION OF PREGNANCY, SYMPTOMS, SIGNS AND POSITIVE CULTURE IN THE TWO TREATMENT GROUPS.

	Treatment Group	
	Clotrimazole	Econazole
Age		
15 - 20 years	10%	16%
21 - 30 years	68%	70%
31 - 40 years	22%	14%
Parity		
One pregnancy	28%	20%
Two or more pregnancies	72%	80%
Duration of Pregnancy		
Second trimester	44%	50%
Third trimester	56%	50%
Symptoms	80%	78%
Signs	100%	100%
Positive culture for Candida.	100%	100%

**TABLE II**  
POST TREATMENT EVALUATION OF RESPONSE ON FIRST AND SECOND FOLLOW UP

Assessment	Clotrimazole	Econazole
1st follow up		
Culture negative with clinical improvement.	50%*	66%*
Culture negative or clinical improvement	16%	14%
Culture positive and no clinical improvement	34%	20%
2nd follow up		
Culture negative with clinical improvement.	**	**
Culture negative or clinical improvement	44%	62%
Culture positive and no clinical improvement	16%	18%
Culture positive and no clinical improvement	40%	20%

\*, \*\* No significant difference ( $X^2$  analysis).

44% at two weeks follow up whereas in literature even at four weeks follow up, the figures reported are above 80% (Master-son, 1978, Stettendorf et al 1982). Similarly with econazole with 3 days schedule, the cure rate reported in above 80% (Popkin, 1982; Stettendorf et al, 1982 & Gabriel and Thin 1983) which is higher than the 66% cure rate observed at first follow up and 62% at second follow up in the present study. The low incidence of cure rate with both the drugs might be due to the fact that the study had been carried on pregnant women and majority of them were in their later half of pregnancy, multiparous, had low nutritional status and did self instillation of the drugs.

In the present series, no significant difference was observed in mycological cure rate, relapse rate or overall cure rate in patients treated with clotrimazole or econazole. Both the treatments were acceptable to the patients and both were free from side effects. The results are comparable to those of Stettendorf et al (1982) and Gabriel and Thin (1983). Fredricsson et al (1980) also compared the two drugs and commented that econazole was more effective in relief of the symptoms although

same mycological cure rate had been obtained with both the drugs.

Thus, in effectiveness, one drug cannot be considered superior to the other. The clinician should choose between the two on the basis of cost, availability and duration of treatment. The use of shorter course of an antimicrobial agent improves compliance and reduces cost.

### References

1. Bingham, J.S.: *Brit J. of Venereal diseases*. 60: 175, 1984.
2. Bradbeer, C.S. & Thin, R.N.: *Genitourinary Med.* : 61 ; 396, 1985.
3. Bradford, A.H.: *Principles of Med. statistics*, 9th Ed. 1972, Page-364.
4. Fredricsson, F.Frisk, A.; Hagstrona, L.; Forslin, L. & Lindhe, B.A.: *Current therapeutic research*, 27(3): 309, 1980.
5. Gabriel, G. & Thin, R.N.: *Brit.J. of Venereal diseases*, 59; 56, 1983.
6. Jennison, R.F.: *Symposium on Candida infections*, 1966.
7. Kassis, V.: *Current therapeutic research*. 26: 109, 1979.
8. Mackenzie, D.W.E.?: *J.Clin. Path.* 15: 563, 1962.
9. Masterton, G.: *Current Medical Research and Opinion*; 3(2) ; 83, 1975.
10. Popkin, D.R.: *Current Therap. Res. Clinical Exp.* 32/6 ll: 948, 1982.
11. Stettendorf, G. & Carson, V.L.: *Chemotherapy*, 28 (Supplement 1): 87, 1982.