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Study of efficacy between topicallyadministered Eberconozole & topically administered Terbinafine in fungal infections of dermis.

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ABSTRACT : *Fungal infection of dermis is otherwise called as dermatophytosis. It is a superficial infection of keratinised tissue. The present study is to see the efficacy of topically administered Eberconozole and topically administered Terbinafine. It is a randomized prospective study. 50 patients selected randomly and were given 1% Eberconozole & applied twice daily for 4 weeks. 50 patients selected randomly and were given 1% Terbinafine cream applied twice daily for 4 weeks.Patients of both the groups were followed up weekly assessing the parameters like clinical improvement, KOH, microscopy, culture and adverse effects every week for 4 weeks.The results were shown in tabular form. Comparison and significance were calculated. Results were shown graphically also.In the present study it was noticed that topical 1% Eberconozole cream showed early and better efficacy than 1% topical Terbinafine in the treatment of dermatophytosis. Cost benefit is more to Eberconozole therapy than Terbinafine.*

KEYWORDS – *Dermatophytosis, Eberconozole, Keratin, Randomized Terbinafine.*

I. INTRODUCTION

The fungal infection of skin is otherwise called as Dermatophytosis. It is the superficial infection of keratinized tissue. It is the most common cutaneous infection affecting skin, hair and nails. The clinical forms are Tinea corporis and Tinea cruris. Tinea corporis involves the whole skin with exclusion of palms (Tinea manuum) and soles (Tinea pedis). Tinea cruris involves the groin area includes infection of genitalia, pubic area, perineal and perianal area. Factors like trauma, increased hydration and maceration of skin, occlusive clothing, hot and humid climate and various endocrine and metabolic factors also contribute to the causation of disease [1, 4]. Pruritis is the common symptom and there are multiple erythematous papulo vesicles or scales with a clean centre.Topical Imidazoles along with allylamines is currently the first line of treatment. Two important restrictions of therapeutic options are the recurrence of infection and prolonged treatment trends of resistant strains have been observed thus necessitating the need for more potent and more effective antifungal drugs. As the infections are more and there is more need for new drugs we want to see the efficacy of topically administered Eberconozole and topically administered Terbinafine in these fungal infection.

II. AIMS & OBJECTIVES

1. To see the efficacy of 1% topical Eberconozole and 1% topical Terbinafine individually.
2. To see which drug is better in its efficacy.
3. To see which drug is better in not to produce any adverse drug reactions.
4. To see which drug is better in cost benefit treatment.

III.METHODOLOGY

3.1.Type of study: - It is randomized prospective study.
Patients who are visiting outpatient clinic of dermatology, Government general hospital, Guntur were taken for this study.

3.2. Exclusion criteria: - Patients with
1. Extensive infection.
2. Recent history of treat with any formulations (either oral or topical).
3. History of long standing disease, heart disease and diabetes HIV positivity and TB.
4. Pregnancy and lactation.
5. Age below 15 and above 60 years.

3.3.Inclusion criteria: -

1. Localisation of infection with 1 to 3 lesions of less than one month duration.
2. No past history of similar allergies.
3. No history of recent treatment.
4. Positive KOH microscopy and culture were included.
5. Age between 15 to 60years.

Informed written consent was taken. Ethics committee permission was taken.

Patients were categorized into two groups. 50 patients were chosen randomly to Eberconozole and 50 patients were taken to Terbinafne groups.Eberconozole group were given 1%Eberconozole cream applied twice daily for 4weeks.Terbinafine group were given 1%Terbinafine cream applied twice daily for 4 weeks.Each patient of both groups were followed up to 4weeks noting the following parameters every week.

1. Clinical improvement in the itching, erythema and size of the lesion.
2. KOH microscopy.
3. Culture in sabouraud's media.
4. Adverse effects.

Results were tabulated and compared and shown graphically.

IV. RESULTS

4.1. Response by the end of 1st week: In Eberconozole group itching disappeared in 25 (50%) patients and 20 (40%) patients in Terbinafine group.No improvement among both groups in other symptoms like erythema and size of lesion.

4.2. Response by the end of 2nd week: Itching disappears in 40 (80%) patients in Eberconozole group and in 25 (50%) patients in Terbinafine group. Erythema was decreased in 8 patients in Eberconozole group and no change in terbinafine group.

4.3. Response by the end of 3rd week: Infection completely disappeared in both the groups. Erythema decreased in 32 (64%) patients in Eberconozole group. whereas 29 (5%) patients in Terbinafine group. Size of the lesion was decreased in 28 (56%) in Eberconozole group while it was 11 (22%) patients in Terbinafine group.

4.4. Response by the end of 4th week: Erythema completely disappeared in all patients after 4weeks in both groups. Lesions completely disappeared in 40 (80%) patients in Terbinafine group.

4.5. Response in microscopy after KOH staining:

All the patients in both groups showed positive KOH response before starting this treatment. The response to treatment was shown by negative KOH test which occurred in 15 (30%) patients in Eberconozole group by the end of 2nd week whereas it was negative in 10 (20%) patients in Terbinafine group.By the end of 3rd week 43 (86%) patients showed KOH negative response in Eberconozole group whereas 30 (60%) patients were KOH negative in Terbinafine group.All 100 patients were KOH negative by the end of 4th week. Response with Eberconozole was earlier when compared with Terbinafine ($P<0.001$, highly significant).Culture was negative in almost all patients in both the groups by the end of 4th week.Throughout the 4weeks follow up period there were no adverse effects noted in patients of both the groups.

All the results were tabulated and shown graphically. P values were calculated by chi-square test.

5.FIGURES AND TABLES:

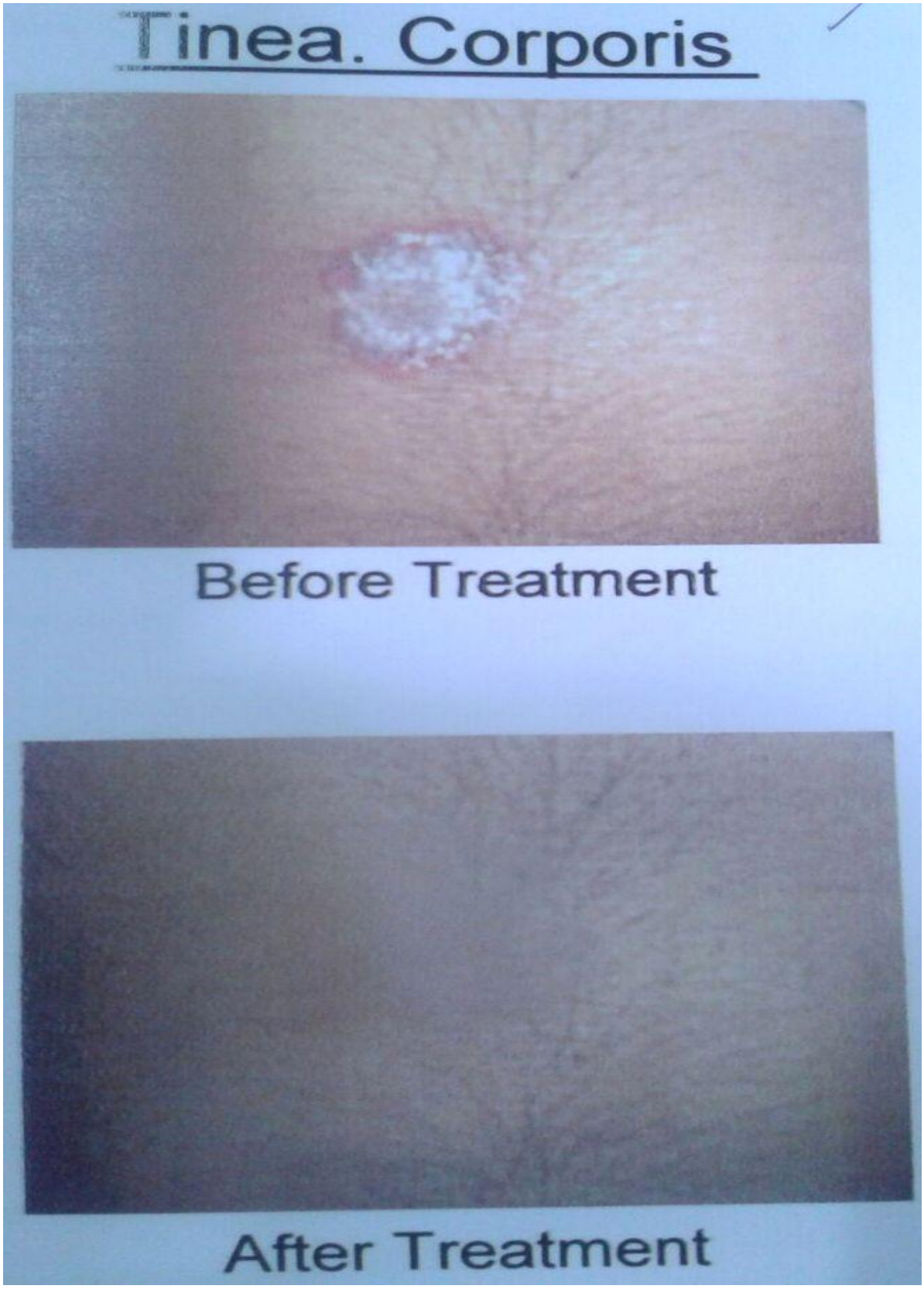

Figure 1

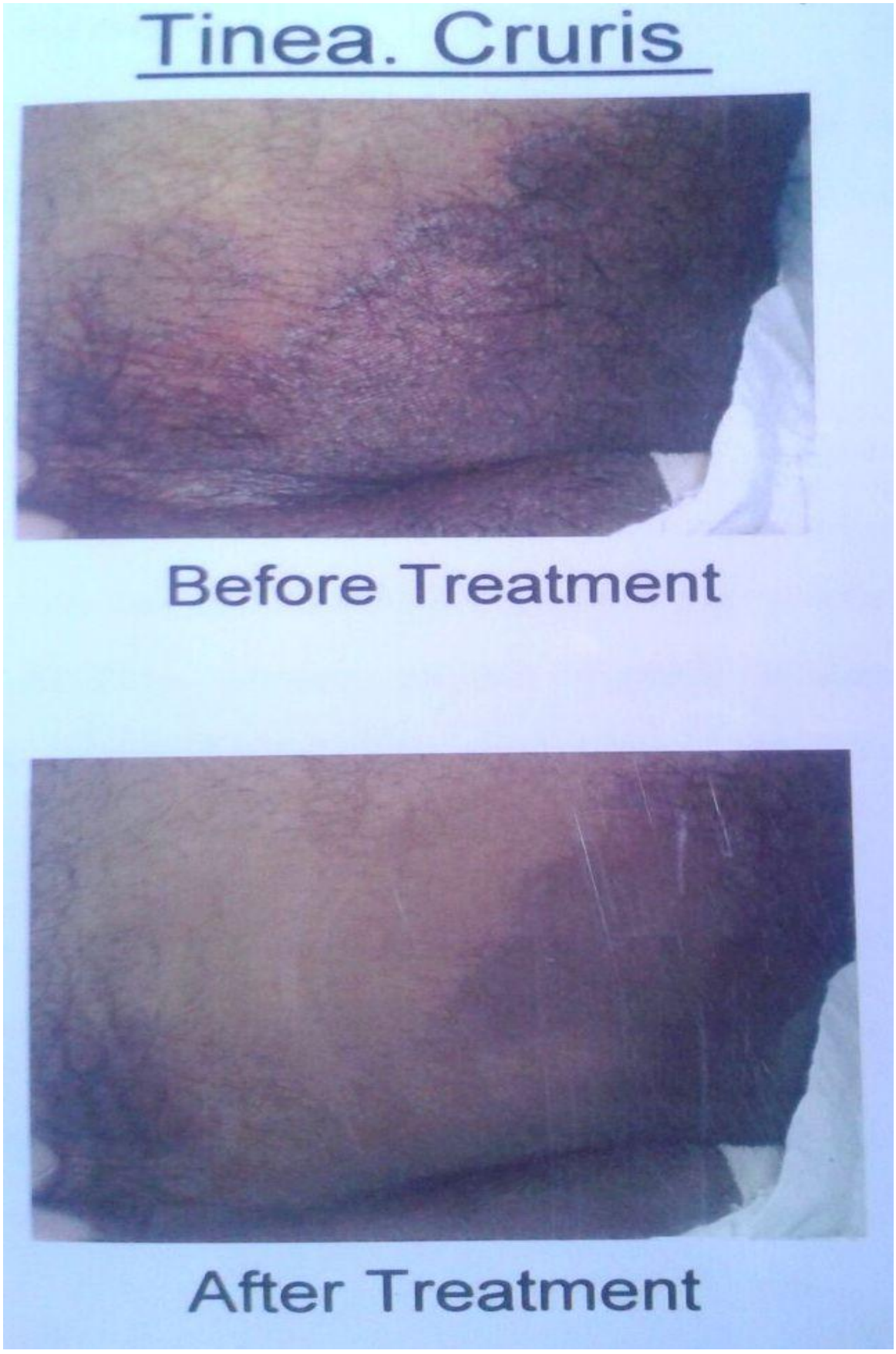

Figure 2

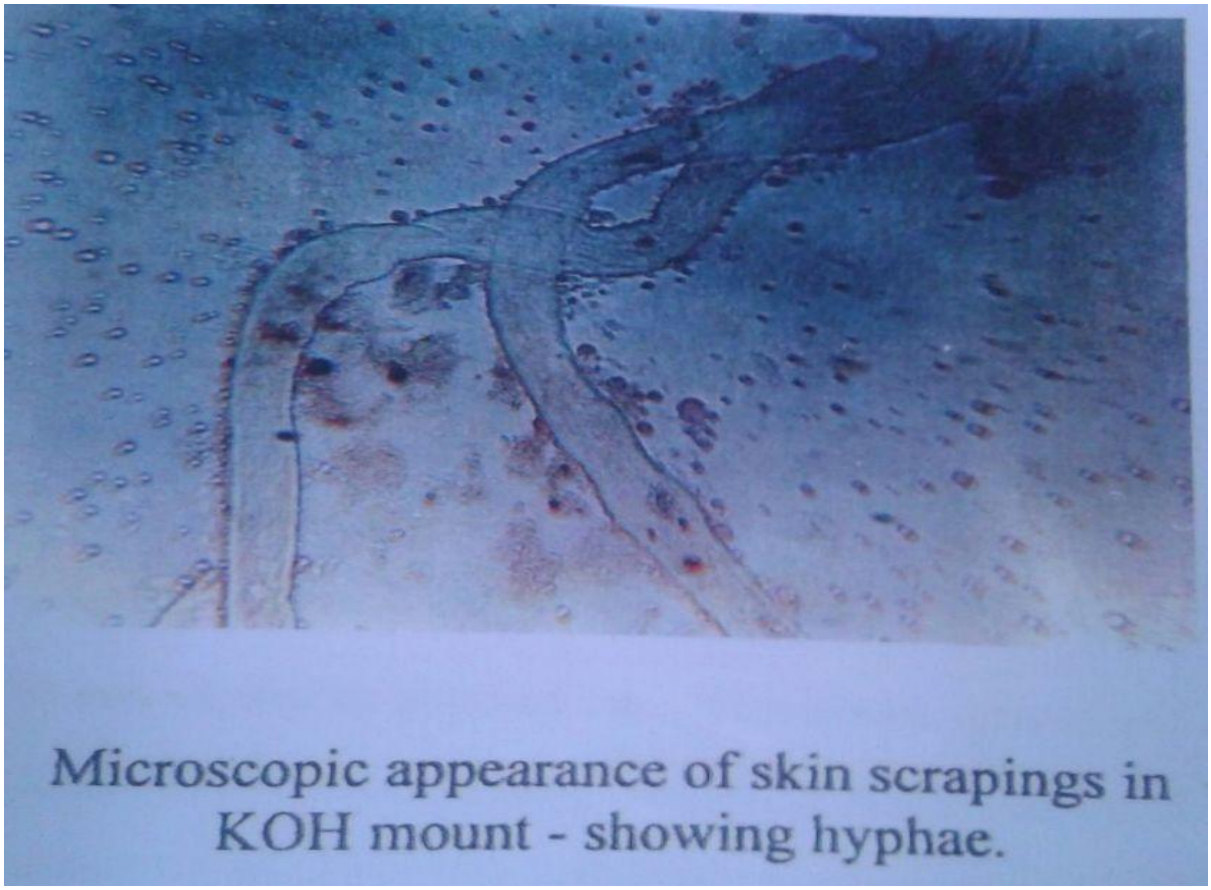

Figure 3

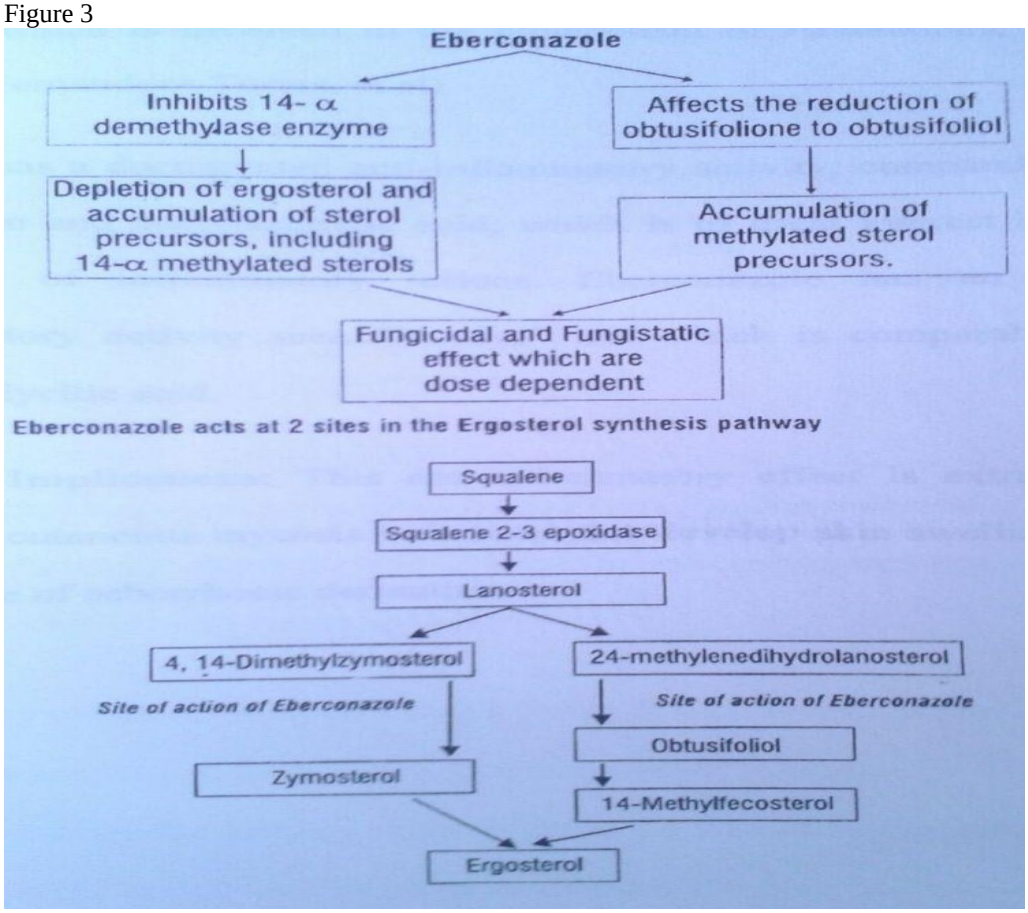

Figure 4

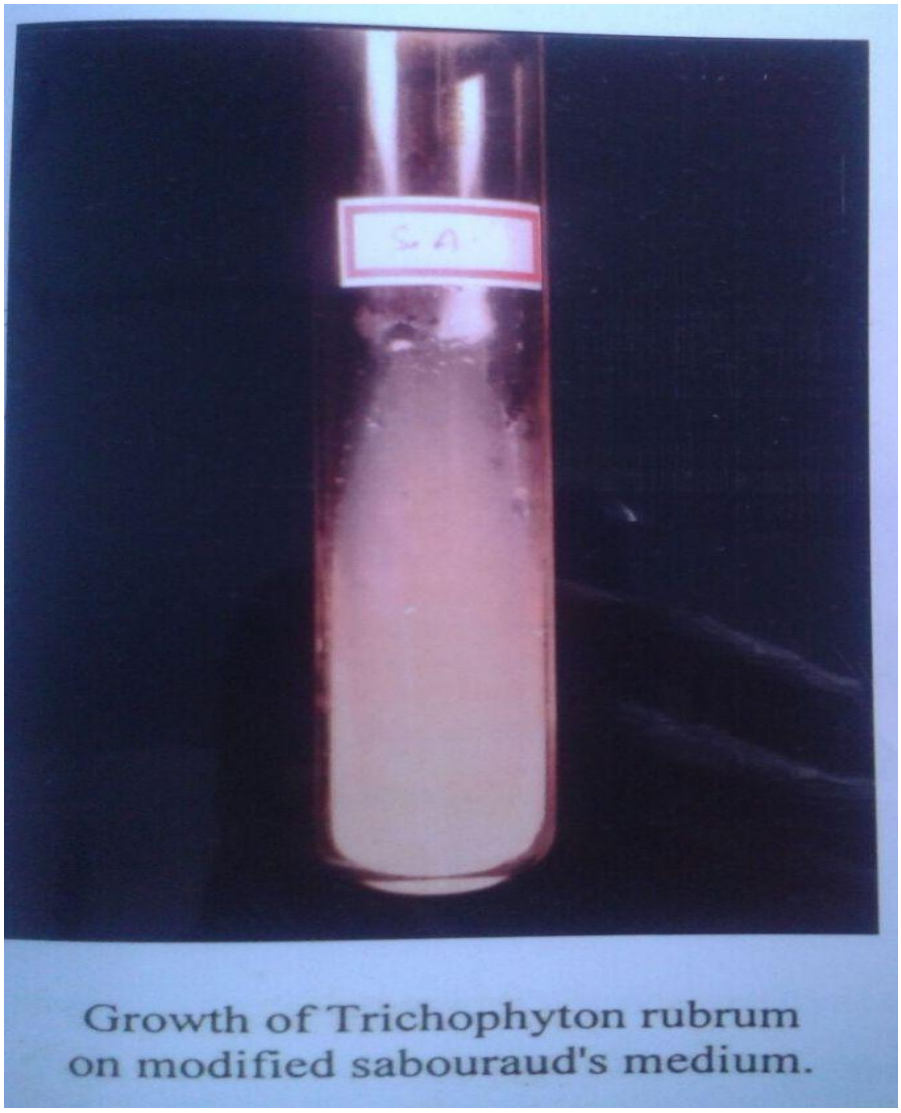

Figure 5

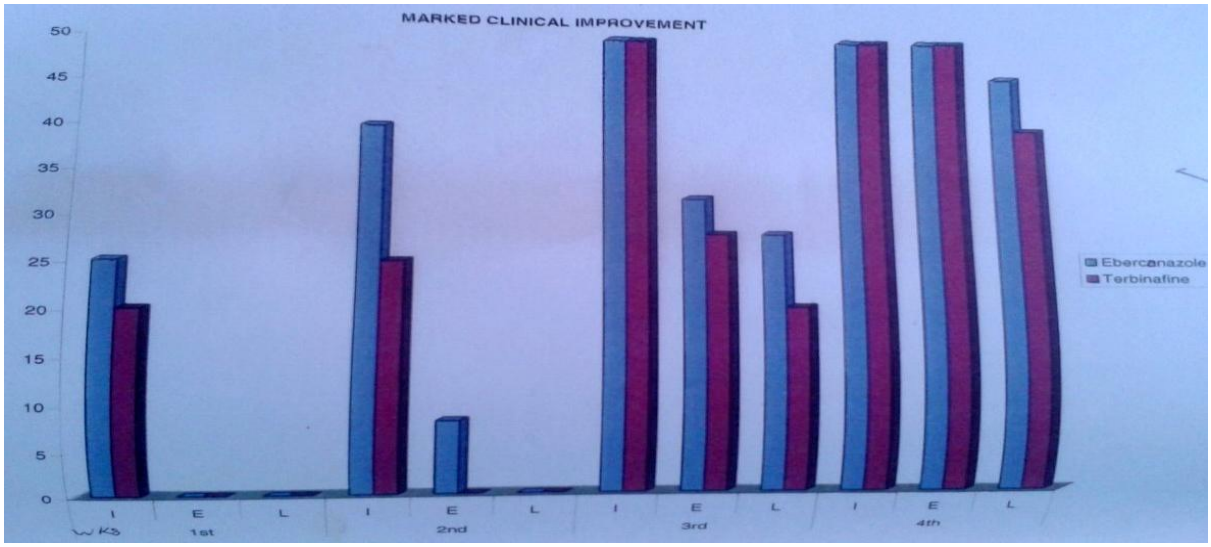

Figure 6

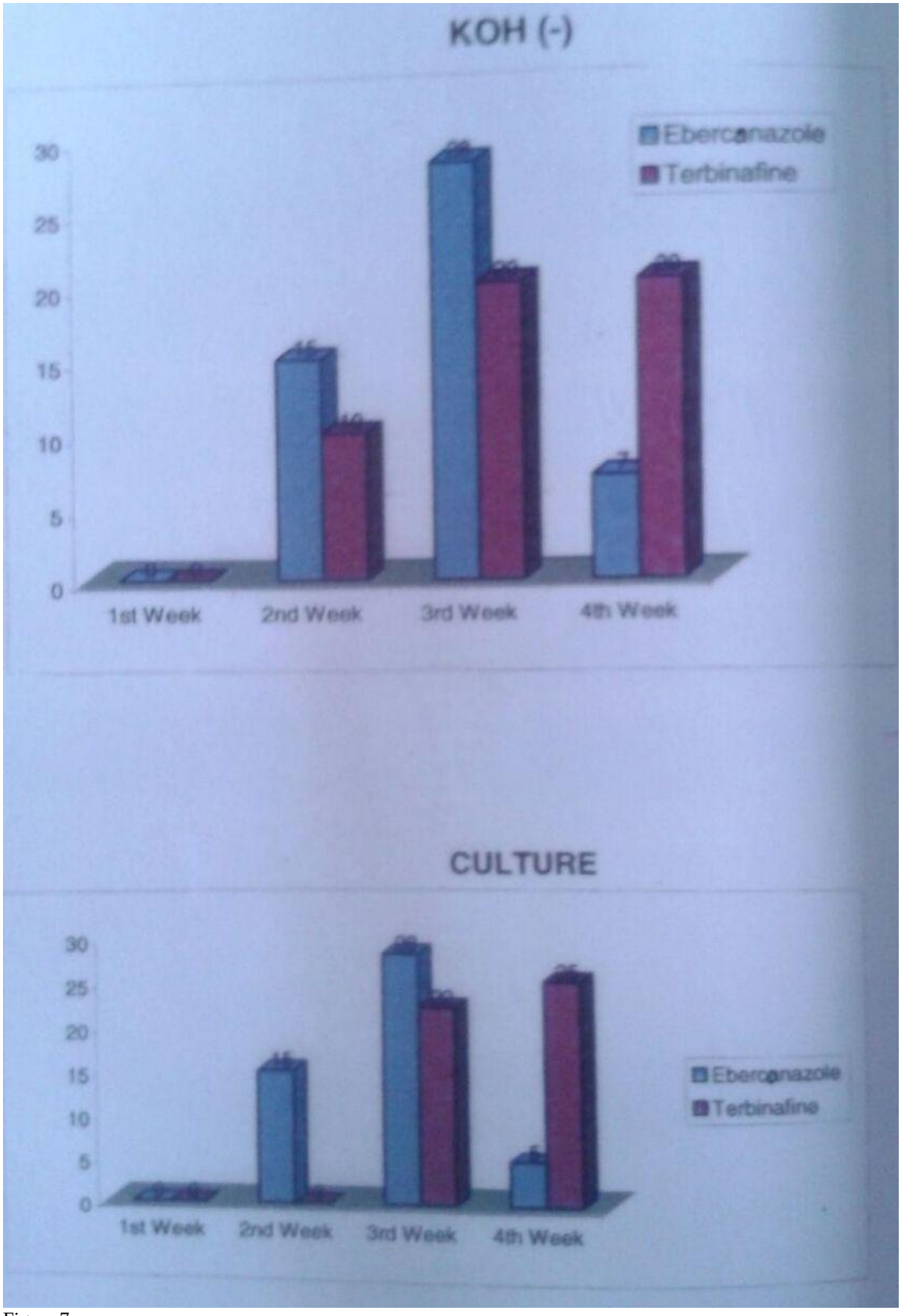
KOH (-)
Ebercanazole
Terbinafine
30
25
20
15
10
5
0
1st Week
2nd Week
3rd Week
4th Week
CULTURE
30
25
20
15
10
5
0
1st Week
2nd Week
3rd Week
4th Week
Ebercanazole
Terbinafine

Figure 7

MARKED CLINICAL IMPROVEMENT:

	1st week			2nd week			3rd week			4th week		
	I	E	L	I	E	L	I	E	L	I	E	L
EBERCONOZOLE	25	0	0	40	8	0	50	32	28	50	50	46
TERBINAFINE	20	0	0	25	0	0	50	28	20	50	50	40

Table 1

KOH (Negative)

	1st week	2nd week	3rd week	4th week
EBERCONOZOLE	0	15	28	7
TERBINAFINE	0	10	20	20

Table 2

Culture:

	1st week	2nd week	3rd week	4th week
EBERCONOZOLE	0	15	28	5
TERBINAFINE	0	0	22	25

Table 3

VI. DISCUSSION

Highest incidence (51%) was seen in age group between 15-30 years. The maximum incidence in this age group may be due to increased physical activity and an increased opportunity for exposure. It was consistent with the study of Raja Rao and Annapurna et al (1973), Bhaskaran et al (1977), Mehrotra et al (1978), Sundaran et al (1986) who found that infection was more frequent in adult age group [2]Topical treatment with Eberconozole found effective by the end of 3rd week. It was consistent with the study of Palcio A, Cuelaes, Rodi guez A et al [3].In the Tebinafine group clinical & mycological improvement (KOH & culture) was seen by the end of 3rd week 44%patients this was similar with the study of Schop & R et al [4].The study was undertaken for a period of 4weeks only because of high cost of the culture media and drugs. It was not possible to recruit large number of patients in our trial. So further studies using large number of patients for a longer period was necessary to give support to the results.

VII. SUMMARY AND CONCLUSION

Dermatophytosis is the most common superficial infection of the skin. Hot and humid climate, occlusive clothing, increased hydration and maceration of the skin are the most common predisposing factors.

The present study was to see the efficacy of topical 1%Eberconozole and topical 1%terbinafine. It was randomized prospective study. 100patients were categorized into two groups. 50patients were taken as Eberconozole group and 50patients were taken as Terbinafine group. Each group was given 1%Eberconozole cream and 1%Terbinafine cream applied twice daily for 4weeks.Patients of both the groups were followed up weekly to assessing the parameters like clinical improvement in the itching, erythema and size of the lesion, KOH microscopy, culture and adverse effects every week for 4weeks. There were no adverse effects in both the groups.Results were shown in tabular form and also graphically. Comparison and significance were tested by chi-square test and their P values were calculated [5].In the present study it was noticed that both the drugs worked effectively and topical 1%Eberconozole cream shows early and better efficacy than 1% topical Terbinafine. Cost benefit is more for Eberconozole therapy than Terbinafine.

ACKNOWLEDGEMENTS:

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