TRIPHYSOL IN CHRONIC SUPERFICIAL DERMATOMYCOSES

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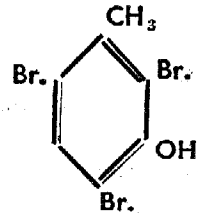
INTRODUCTION

According to Desai, S. C.,[1] superficial fungus infections account for 11.5% of the total skin disorders in Bombay. The management of superficial mycotic infections is evidently a day-to-day problem. The research world is therefore trying to discover better and better antimycotic agents. In the research Division of A/s Dumex (Dumex Ltd.), Denmark, it was recently shown that 2, 4, 6-tribromo-3-oxy-toluene or tribromo-metacresol had a powerful fungicidal effects without being irritant to the tissues. It is a bromine substituted phenol compound and 'Triphysol' is its trade name.

Background of Triphysol Discovery: The phenols are most frequently used as antiseptics. In order to obtain a fungicidal or a fungistatic concentration within the cells against dermatophytes, the concentration in the outer fluid for most phenols must be so high that the solution acts as a local irritant. For this reason, phenols as such cannot be used in clinical practice. The introduction of a halogen in the phenyl radical markedly increases the fungicidal effect.[2] The fungistatic effect of the phenols increases with a number of halogen substitutes upto a certain limit beyond which further substitution leads to a decrease in the activity. The addition of a methyl group also increases the fungistatic effect. Among the various derivatives tested, 2, 4, 6-tribromo-3-oxytoluene (tribromometacresol) rendered the most promising results.

A. B. C. OF TRIPHYSOL

Triphysol is a solution of 2, 4-6 tribromo-3 oxytoluene and salicylic acid in ethyl alcohol. Its chemical formula is $C_7H_5O\,Br_2$



It occurs as yellowish white needle-shaped crystals with a penetrating phenol like smell. It is moderately soluble in propylene glycol and is almost

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insoluble in water. It shows an extinction maximum at 297 mu, when dissolved in 50% alcohol. It has powerful fungistatic and fungicidal action with virtually negligible toxicity towards human beings and animals except cats (which cannot eliminate phenols). In Danish trials conducted on 800 cows with superficial dermatomycoses, triphysol produced the cure rate of 98.5%.

Comparison of the Antifungal Action of Triphysol, Vioform and Sterosan[2]

Drug	Trichophyton rosaceum	Trichophyton rubrum	Microsporon canis
Triphysol	20 (2.5–5)	10 (2.5)	20 (2.5–5)
Sterosan	40 (10)	40 (5–10)	40 (5)
Vioform	20 (2.5–5)	10 (2.5–5)	40 (10–20)

Figures outside the brackets show concentration in ug/ml.

Substrate indicating 100% inhibition while figures in the brackets show concentration in ug/ml. substrate indicating 50% inhibition. Triphysol is fungistatic in concentrations ranging from 2.5–20 ug/ml. in vitro.

Triphysol possesses marked skin penetrating power. Triphysol, due to its formidable penetrating power, will not only trespass the corneal layer but can reach the fungi underneath Str. corneum and kill them. Triphysol has selective action on fungi and does not affect living cells. Triphysol therapy is free from irritation except on mucous membranes and eyes.

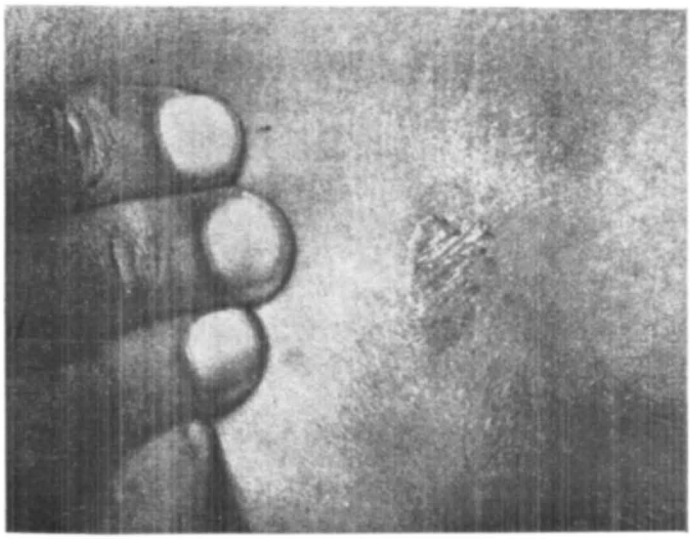
PRESENTATION AND PACKING

Triphysol plain is dispensed in aerosol packs containing 1.5G. tribromometacrerol in talcum powder base. Freon, a mixture of inert low boiling point aliphatic halogenated hydrocarbon is used as a propellant. Powder acts as a drying agent and also helps to hold the sprayed active ingredient down to the skin.

Recently propylene glycol was found to be a more effective excipient than talcum powder. Propylene glycol provided more intimate contact between the therapeutic substance and the affected parts and rendered more durable effect. Cans of Triphysol containing propylene glycol are labelled 'ak 55' or 'qb 3'.

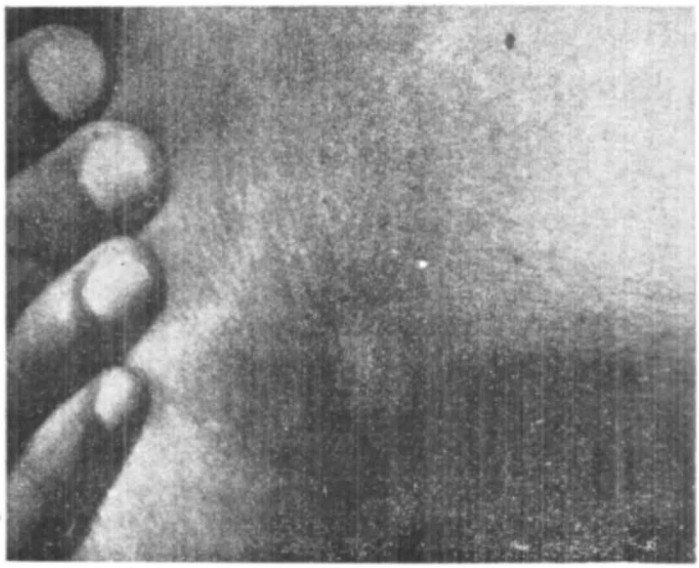
Clinical Material: Due to the courtesy of A/s Dumex (Dumex Ltd.) of Copenhagen, Denmark, we had an opportunity to try this new antimycotic, agent in the Skin Dept. of the G.T. Hospital, Bombay. Thirtysix 'Triphysol' cans containing propylene glycol as excipient and twelve cans of Triphysol in talcum powder base were delivered to us. Our series comprised of 50 proved cases of chronic superficial fungus infections including 20 cases of chronic tinea cruris,

Fig. 1



Tinea Axillaris before treatment.

Fig. 2



The lesion in Fig. 1 after 20 sprays of Triphysol 'qb 3'

Fig. 3

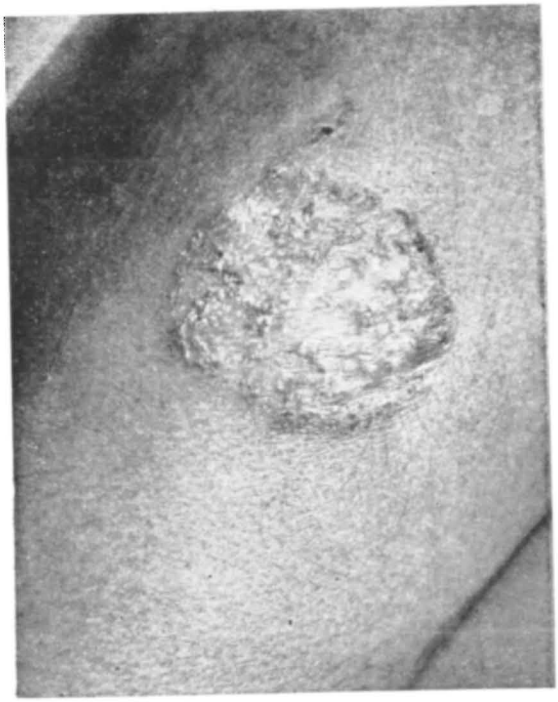


Fig. 4

The same lesion as in Fig. 3 after 20 sprays Triphysol 'qb 3'
The lesion was on the smallpox vaccination scar.

20 cases of athlete's foot, 8 cases of tinea corporis and 2 cases of tinea axillaris. This study included 38 males, 9 females and 3 children. We preferred patients having localized, symmetrical, chronic and dry lesions. Acute or subacute cases with oozing or suppurating lesions were not taken for this study. The most of the patients were treated as out-door patients.

Procedure: The patients in this series did not receive any other antipruritic or antifungal agent. The lesions were sprayed with 'Triphysol' once daily except on Sundays for 20 days. The aerosol pressure container of 'Triphysol' was first held about 8 inches away from the lesion and the patient was asked to close the eyes. The valve was then pressed for a few seconds and the fine jet spray was directed in such a way that the entire lesion including about 2 cm. of the surrounding normal skin was covered with 'Triphysol'. Each patient received 20 sprays and was under observation for at least 3 weeks. The subjective as well as objective findings were noted at weekly intervals and watch was kept for local allergic reactions.

The first part of this trial was meant for comparing the antifungal actions of Triphysol plain containing talcnm powder as excipient and Triphysol 'ak 55' having propylene glycol as the excipient. For this purpose 25 patients with chronic bilaterally symmetrical and similar (in stages of development) lesions of athletes foot and tinea cruris were selected. This group comprised of ten cases of chronic athletes foot and fifteen cases of chronic tinea cruris.

In every case, one side was sprayed once daily with Triphysol plain while the other with the Triphysol 'ak 55'. As at the end of this series 'ak 55' proved definitely superior to triphysol plain, during the second phase only Triphysol in propylene glycol and labelled as 'qb 3' was similarly used in another group of 25 cases including 5 cases of chronic tinea cruris, 10 cases of chronic athlete's foot, 8 cases of chronic and circumscribed tinea corporis and 2 cases of chronic tinea axillaris.

At the end of 20 sprays, depending upon the grade of the clinical improvement obtained, the results were labelled as good, fair and poor.

FINDINGS AND OBSERVATIONS

With Triphysol plain the results were good in 36%, fair in 24% and poor in 40% while with Triphysol in propylene glycol (i. e. ak 55 and qb 3) the clinical improvement was labelled as good in 54%, fair in 16% and poor in 30% cases. Being non-messy and non-staining the patients found Triphysel 'ak 55' or 'qb 3' as the most agreeable topical antimycotic preparation. In 36% of the cases treated with plain Triphysol and in 54% of the cases sprayed with Triphysol 'ak 55' or 'qb 3', itching subsided markedly within one week therapy.

Table showing the Therapeutic Effects of Triphysol Sprays

	Brand of Triphysol	Total No. of cases	Good	Fair	Poor
Part I	ak 55 (Propylene glycol)	25	13	4	8
	Plain with talcum powder	25	9	6	10
Part II	qb-3 (Fropylene glycol)	25	14	4	7

Note : 'ak 55' and 'qb 3' are exactly identical preparations.

Side-effects: The drug was well-tolerated by all the patients including women and children except by one male patient with chronic tinea cruris. This patient developed an acute erythema on the sprayed area after receiving 4 sprays of Triphysol 'qb 3' and the treatment had to be discontinued.

SUMMARY & CONCLUSIONS

Fifty cases of chronic superficial fungus infections were treated with a new topical antimycotic preparation 'Triphysol' supplied in aerosol containers. Triphysol or tribromo-metacresol with propylene glycol as the excipient and labelled as ak 55 or qb 3 proved effective in 70% of the treated cases while plain triphysol having talcum powder as excipient rendered satisfactory results only in 60% of the treated cases. Triphysol ak 55 or qb-3 revealed very satisfactory antipruritic action. Triphysol sprays are most convenient and handy to the dermatologists and being non-messy and non-staining are most agreeable to the patients. Triphysol in propylene glycol base can well be reckoned as the topical antifungal agent of choice for chronic and uncomplicated cases of superficial fungal infections of the skin.

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