THE "PHENOL AND CAMPHOR" TREATMENT OF RINGWORM OF THE GLABROUS SKIN. AN INTERIM REPORT.

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Being an Army Medical Officer, and being impressed by the numerous cases of ringworm of the glabrous skin seen on sick parades, I resolved to test the "phenol and camphor" method of treatment [1].

Incidence of Cases.—The two main types of ringworm treated in this series were tinea cruris and tinea pedis. Tinea must be fairly widespread throughout the Service. The number of men treated to date amounts to 62 of whom 50 have been discharged as cured; the remaining 12 are the present in-patients. The total figure was made of 47 cases of T. pedis and 15 of T. cruris. One case of erythrasma and one case of ectothrix ringworm have also been treated.

Diagnosis in every case was checked microscopically but, owing to lack of facilities, it was impossible to culture on Sabouraud’s medium. Of the 15 cases of T. cruris 8 had recognizable T. pedis running concurrently—the latter always being moderate in degree.

Preparation of Lotion.—The lotion used consisted of a "fifty-fifty" mixture of phenol and camphor prepared by melting a known volume of pure phenol, pouring it into a mortar, adding the proportionate amount of pure camphor and rubbing up the mixture until liquid.

Method of Application.—The lotion is most economically applied with a camel hair brush.

The skin must be dry; otherwise the phenol is liberated from its union with the camphor and burning occurs.

It is not necessary to dry with spirit—swabbing with cotton-wool is sufficient. Dressings, strapping and waterproof coverings are best avoided as they retain sweat. An exception to this rule is seen in those cases of T. cruris in which the scrotum is unaffected. Here a home made suspensory bandage can be utilized to protect the delicate scrotal skin.

Applications to healthy skin are symptomless. A certain amount of smarting appears usual during applications to patches of T. cruris though it is rarely intense and seldom lasts more than fifteen minutes. It is much less common in T. pedis. The more intense the infection, the larger the infected area, the more fissured the skin, the greater the smarting. Infected scrotal skin is most delicate in this respect but appears to be rid of infection most rapidly of all. Contact of serum or pus with the lotion does not appear to promote burning.

Tinea of the glabrous skin appears to be associated especially with excessive sweating. Consequently a rule was made that for half an hour
after applications the affected part should be exposed to the air without a covering of bedclothes, etc.

_Treatment._—Intelligent nursing is definitely a requisite of rapid cure. Phenol is a substance which must be used with great care and discretion and the nursing staff must be fully trained in the detail of its use.

With these requisites in view, and remembering that rest is a first principle in the treatment of all inflammations, the routine used was to admit patients and treat them as bed cases—allowed to get up for bowel motions, etc., only.

The impression gained was that four applications a day produced a sufficiently constant high concentration of phenol for progress to be maintained at the optimum rate.

The danger of more frequent applications lies in the formation of small indolent-looking ulcers. These however heal in two or three days when covered by a strip of elastoplast and left undisturbed.

In the case of _T. cruris_ it is advisable to apply the lotion first to the healthy skin beyond the periphery of the patch and then to work inwards. With such a technique there is less likelihood of missing a small portion of the growing edge as a result of hurried treatment.

The lotion causes the affected skin to flake—at first as a branny desquamation and later in flakes of increasing size.

These should be removed with ol. arachis or zinc cream, both of which have a beneficial effect on the smarting. In _T. pedis_ the moist interdigital skin dries and should be peeled off so that each application subsequently is applied nearer to the zone of active infection and not to the covering umbrella of thick moist skin. The lotion is rubbed well in with the brush and the crusts are removed as far as possible without bleeding in chronic cases.

As would be expected the outermost cleft is the most stubborn and the others are (in general) healed a few days before it.

_Results._—There have been no recurrences among the 15 cases of _T. cruris_ discharged. Two cases of _T. pedis_ have recurred mildly in the outermost digital cleft only but have cleared up as a result of subsequent treatment. It appears probable that these were discharged originally before absolute cure was obtained. The remaining patients show no signs of recurrence.

It is remarkable to note that as a result of treatment the infected portion is completely replaced by normal healthy epidermis and there is no scarring.

Cases of _T. cruris_ received, on an average, 3:5 days of treatment with phenol and camphor; cases of _T. pedis_ averaged 5:76 days' treatment.

The faster healing of _T. cruris_ is probably an expression of the fact that infection is less deep-lying. Cases were not discharged until all traces of thick opaque skin had disappeared or, in cases of _T. cruris_, the scales produced in healing had fallen off leaving a homogeneously smooth,
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non-spreading, non-irritating surface. The cost of treatment averaged 3d. per case. Bulk purchasing would undoubtedly reduce this even further.

Case 1.—One of the worst cases treated was that of W. H., a 33 year old man, who first contracted T. pedis at the age of 10. He had a very severe chronic bilateral infection extending over the soles of his feet and over the anterior aspect of the ankle-joints from between his toes. He had spent at least one-third of his Army career in various hospitals receiving treatment with Whitfield’s ointment, etc. Owing to the condition of his feet he had been excused marching, P.T. and gun-drill throughout his two years’ service. After thirty days’ treatment he was discharged on August 7, 1942, with normal skin on his feet for the first time in twenty-three years. To date (September 27, 1942) after seven weeks of full duties including route marches, P.T., etc., he has no trace of recurrence.

Case 2.—C. R. C. was afflicted with bilateral T. cruris plus extension to both axillae. Four patches (the minimum the size of a half-crown piece) extended from the level of his left knee to the dorsum of the foot and three patches of similar size were present on his right thigh. The fourth and third interdigital clefts of both feet showed moderate T. pedis. This was as intense and as widespread an infection as I have ever seen. The primary patch on the right thigh was 13 by 10½ inches—that on the left side was but little smaller. The armpits were almost completely affected. But after seven days’ active treatment, with two subsequent days of observation, he was returned cured to his unit. He has had no further trouble.

Case 3.—Is quoted for its general interest and for the implied extension of the phenol and camphor treatment to cases of tinea other than that of the glabrous skin. R. J. W. was admitted on August 31, 1942, suffering from a well-developed kerion celsi (ectothrix), 65 mm. in diameter, situated in the left posterior triangle of the neck. Applications of cataplasma kaolin co followed by pasta mag. sulph. succeeded in inducing a free flow of pus from numerous follicular openings. Lotio phenol and camphor was then applied three times daily (kaolin and mag. sulph. being stopped). Within the first twenty-four hours all purulent discharge had cleared and the surface of the kerion celsi was dry and crusted. With subsequent applications the crusts became removable and the neck returned to its normal state. No burning occurred.

No toxic renal effects were observed throughout the series.

Conclusions.—There is reason to believe that ringworm of the glabrous skin is prevalent.

In trained hands lotio phenol and camphor appears to be a rapid, certain and cheap cure.

Certain details of treatment still remain to be worked out more fully.

A new field of investigation has been opened into the treatment of "dermatitis due to fungi."

I am indebted to Colonel James Rannie, T.D., for his interest and encouragement; to Colonel W. B. Laird, for permission to publish these notes; and to Corporal I. I. Nelms, R.A.M.C., and the remainder of my staff for their intelligent and enthusiastic co-operation in treatment.

My thanks go to my wife for her ready assistance in unravelling statistics and in compiling this report.