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PROPHYLACTIC AND THERAPEUTIC
COMPOSITION

Douglas T. Prehn, New York, N. Y.

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This application is a continuation-in-part of my prior application Serial No. 187,316, filed January 27, 1938, entitled "Prophylactic and therapeutic compounds".

5 This invention relates to compounds for the specific use in the prevention and in the treatment of mycotic diseases such as trichophytosis commonly called "athlete's foot", or such tinea infections as tinea cruris commonly called "jock-strap-itch", or any ringworm infections and similar named diseases of the same type infections usually due to the fungi and their relatives.

10 The compounds hereinafter discussed are also used in the treatment of other skin affections such as miliaria known as "prickly heat", types of dermatitis and pruritus lesions as seborrheic dermatitis, acne, some common types of eczema and other similar skin affections which frequently have the characteristic of responding to the same type of treatment as the mycotic skin diseases.

15 This invention especially relates to a powder, new and novel in its composition, application and function for the treatment of skin diseases either as a specific preventive or as a specific treatment of the mycotic skin infections which heretofore have not had a successful specific remedy in the powdered form.

20 One of the main objects of the present invention is to provide a new compound, preferably composed in powdered form, which may be easily applied to the skin, which is inexpensive to manufacture, which is not unsightly but is of desirable cosmetic appearance on the skin, which does not harm wearing apparel or other contacted places and which is unusually efficacious as a specific in the prevention and in the treatment of skin diseases especially of the mycotic infections.

25 Another object of the present invention is to provide a new compound, preferably composed in powdered form, which may be easily applied to the skin as an adjuvant treatment in many skin diseases as enumerated above, and which invention serves this purpose especially well because it does not interfere with other types of treatment as they are necessary to use, and because it can be used during the day on the exposed surfaces of the skin where other forms of treatment cannot be used when the individual must appear in public.

30 A further object is to provide a new compound which may be used, because of its specific quality manifested by a synergic pharmacological property capable of destroying the fungi or similar skin infection and maintaining a normal

healthy skin, in liquid or ointment form when these vehicles are more desirable for the treatment of skin infections.

35 It is a further aim and purpose of this invention to eliminate the uncertainty of previously proposed remedies for the prevention and for the treatment of the exceedingly prevalent mycotic skin infections and similar skin diseases contributing a new remedy for the general public's home use which simple compound, preferably composed in powdered form, may be safely applied without fear of injurious effect to the skin. Therefore, due to low cost of manufacture, its specific quality as a prophylactic and therapeutic agent for the extensive fungi skin infections, and the simplicity with which it may be applied to affected areas, it is of great potential health service.

40 In order that a better understanding of this invention may be had, it may be stated that remedies have heretofore been provided for the treatment of the mycotic skin diseases, but for the most part these prior remedies revealed no special or no specific, unusual, successful, clinical result. In the search for a more specific treatment, the first experiments which began to reveal encouraging results were carried out with a prophylactic powder made up of camphor, salicylic acid, zinc stearate and talcum. This also revealed some clinical value, as it cleared up a number of mild and moderately advanced mycotic skin infections not responsive to the usual treatment. Menthol was then tried, in place of the camphor, and it soon revealed advantages over the camphor which were mainly attributed to its adhesive quality in application brought about by its coaction with salicylic acid. After more experimental variations of the ingredients were tried, with fluctuant episodes of clinical success, the idea of the invention's composition was discovered.

45 This new compound forming the present invention was synthesized by adding camphor and salicylic acid to menthol. The dissolution of these three crystalline products into a solution demonstrated the compound's physical property change. As the chemical formula of crude camphor is not known, the exact chemical structure of this new solution cannot be defined nor even the original crystalline ingredients resynthesized from it; therefore, it must be assumed that a chemical property change has also taken place. It is probably the combined physical and chemical change that accounts for the demonstrable new and novel pharmacological property of the

compound or invention. The desirable pharmacological properties of the individual ingredients are not necessarily disturbed in this new compound, instead they are definitely increased and improved also their undesirable individual toxic characteristics are removed or are sufficiently altered to allow unusual endermic therapeutic function. Therefore, these new pharmacological properties composed mainly of the compound's correlated action and the cooperation of the improved desirable properties of the contained ingredients are believed to synchronize with the diseased and normal skin, in the therapy of the compound's endermic absorption, bringing about the destruction of the infection present and its toxic products, including the allergens, as has been specifically borne out in the clinical cases thus far demonstrated.

Therefore, without limiting myself to a particular formula good results, with harmless effect and with benefit to the diseased and normal skin for carrying out the composition's therapeutic function, have been obtained when the compound's ingredients are varied within the range of approximately two to twelve percent by weight of the salicylic acid, two to fifteen percent by weight of the menthol and three to fifteen percent by weight of the camphor. These discriminating limitations to the percentage variations would serve a prophylactic or mild therapeutic function on tender skin, as baby or allergic skin, where the salicylic acid is two percent by weight, menthol two percent by weight and camphor three percent by weight preferably in a powdered vehicle made up of boric acid or zinc stearate and starch, kaolin or talcum; and, where the formula salicylic acid twelve percent by weight, menthol fifteen percent by weight and camphor fifteen percent by weight, contained in a proper vehicle suited best for the purpose intended, would be therapeutically rational for treatment of chronic hyperkeratomycosis.

One suitable composition of the compound in the powdered form and the one which has been most extensively used in numerous clinical trials and a composition which would be best suitable for routine use and for home use is approximately as follows: Salicylic acid 5% by weight, menthol 2% by weight, camphor 8% by weight, boric acid 50% by weight and starch 35% by weight.

Where a powdered vehicle is used as the boric acid starch combination no harmless effect revealed itself clinically where the percentages were variable between fifteen to seventy-five percent by weight of either ingredient, the sum total of the vehicle never less than forty percent and never more than ninety two percent. The same can be said of other vehicles such as the powders zinc stearate, thymol, kaolin, powdered orris, antiseptic powders of the alkali metals, the alkaline earth metals, the zinc, magnesium, bismuth and manganese compounds and talcum where they are added or substituted in the vehicle preparations.

A successful liquid composition used specifically in the treatment of external otitis especially of the mycotic infection was approximately as follows: Salicylic acid 5% by weight, camphor 8% by weight, menthol 5% by weight and alcohol (70% alcohol) 82% by weight.

The reason for variable percentages of the ingredients, within discriminating limits as described above, are indicated in different climates

and different skin conditions. More severe and extensive mycotic skin lesions occur in the tropics or during the hot summer months, especially manifest on obese individuals, often creating painful local edema, considerable maceration and sloughing of the affected part. This is mainly due to the increased irritating perspiration and transpiration of heated skin due to disturbed local circulation and due to self afflicted injurious scratching naturally done by the affected individual to relieve the itching symptoms; therefore, a composition where menthol or camphor or both are in excess is desirable although this should not materially interfere with its synergic pharmacological property of endermic absorption to bring about successful recovery which is maintained in the critical percentage variations described above.

Another example where percentage flexibility might improve the earlier recovery in mycotic skin infection is in the external auditory canals. Here the painful swelling, the maceration and the pruritus of the affected tissues are somewhat similar to the tropical type of lesions. Using a liquid vehicle, as alcohol, to allow easy introduction into the partly closed canal, increasing the percentage of menthol or camphor or both, in order to augment their individual properties yet maintaining the newly discovered pharmacological property of the composition was found clinically successful.

In contradistinction, the colder climates usually develop the opposite type of ringworm lesion, called hyperkeratomycosis, on which an increase of the keratolytic action would probably be more desirable in order to hasten the recovery of this well known chronic condition. Therefore, the keratolytic agent, namely the salicylic acid, is increased although when the salicylic acid is increased it was found that the proportion of one (salicylic acid) to two (camphor, menthol or both) brought about the best clinical results.

The powdered composition's method of application is very important. The powder should be thoroughly rubbed into the skin each night and morning or more frequently as indicated. When blisters, pustules or bullae appear, as in the pompholyx type of mycotic disease, the top layer or roof of the bleb should be cut off and the powder rubbed into the raw or denuded and diseased base or exposed surface of the lesion. Any loose skin should be torn or cut away, all scales of the skin should be removed followed by the triturated application of the powder. As the fungi are known to exist in normal skin one to two inches or more outside the active lesion it is essential to include the adjacent normal skin in the application of the powder. This method should also be continued for several weeks in order to prevent its reappearance. As a prophylactic powder, especially necessary when there is a continuous known exposure, it seems sufficient to use it weekly and in many cases it has prevented recurrence or new infection when used monthly.

These compounds can also be used in the treatment of skin diseases in animals as they have been found efficacious in clinical application for veterinary purpose, because many skin diseases in animals are the same as in human beings.

From the unusual past known clinical success and from the scientific explanation of its new pharmacological properties it is quite obvious that this new compound has specific application in the prevention and in the routine treatment of the superficial mycotic disorders of the skin

and similar skin infections; also this new compound may serve an effective function when used as adjuvant treatment to other skin therapeutic procedures, thereby overcoming the objections to preparations heretofore used and accomplishing among others all of the objects herein set forth.

I claim:

1. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing 2-12% by weight of salicylic acid, 2-15% by weight of menthol and 3-15% by weight of camphor mixed with a vehicle.

2. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing 2-12% by weight of salicylic acid, 2-15% by weight of menthol and 3-15% by weight of camphor mixed with a vehicle, said vehicle comprising boric acid and starch.

3. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing 2-12% by weight of salicylic acid, 2-15% by weight of menthol and 3-15% by weight of camphor mixed with a vehicle, said vehicle comprising primarily a mixture of boric acid and starch where the

percentages are variable between 15-75% by weight of either ingredient, the sum total of the vehicle not less than 40% and not more than 92% by weight.

4. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing 2-12% by weight of salicylic acid, 2-15% by weight of menthol and 3-15% by weight of camphor mixed with a vehicle, said vehicle primarily comprising alcohol.

5. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing approximately 5% by weight of salicylic acid, approximately 2% by weight of menthol and approximately 8% by weight of camphor mixed with a vehicle.

6. A therapeutic agent for the treatment and prevention of mycotic and similar skin infections consisting of a composition containing approximately 5% by weight of salicylic acid, approximately 2% by weight of menthol and approximately 8% by weight of camphor mixed with a vehicle, said vehicle containing boric acid and starch.

DOUGLAS T. PREHN.