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# **The hapten remedy SANUKEHL TRICH:**

## **its origins and therapeutical application**

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SANUKEHL TRICH is a hapten prepared from the dermatophyte *Trichophyton verrucosum*. This is a cutaneous fungus predominantly occurring in the hide of cattle and other ruminants in the region of the head where it causes so-called „cattle trichophytia“. Infection in humans is almost always caused by contact with infected animals and occurs predominantly in agricultural areas. Stalls and objects contaminated with hair and skin cells infected with the fungus act as a reservoir for the mycete, as the pathogens remain infectious for many years. Where conditions in the stalls are poor, intensive animal husbandry facilitates the rapid spread of pathogens in a herd, particularly among young cattle.

Macroscopic manifestations in humans are marked by an acute episode of severe inflammation. Early symptoms may include circular erythematous foci with increasing scaling, infiltration, the formation of pustules, exudation and scab formation. Advanced cases show exceedingly inflamed, considerably painful, nodal cutaneous and/or subcutaneous infiltrates with the formation of abscesses and regional lymphadenitis. Other general symptoms such as fever and lassitude may also be present. As well as the *stratum corneum*, the hair too is affected. The infection becomes even more severe particularly where the hair is thick (e.g. the beard). Localised therapy alone is not sufficient as it generally fails to reach the pathogens in the hair shafts. Doctors trained in traditional medicine prescribe strong antimyotics such as Griseofulvin. A

severe inflammatory infection caused by cattle trichophytia is normally followed by a build-up of resistance in the infected person.

A so-called „dermatophytid“ – a lesion in which no pathogens are found, far removed from the focus of the infection – may occur as an allergic skin reaction to the presence of the dermatophyte. The clinical symptoms are lichenoid or papulovesicular rashes which can also occur in the form of an *Erythema nodosum*. This skin condition was named *lichen trichophyticus* by Jadassohn who discovered it in 1918. Today it is counted among the „id“ reactions, being regarded as the result of the reaction between circulating antigens of the pathogen with skin-sensitising antibodies, and it can, for example, be activated by X-rays, local irritation or repeated massive contact with the antigens. The trichophytids can still occur subcutaneously or on mucous membranes; they appear symmetrically distributed over the body; are sometimes accompanied by fever, leucocytosis and joint lesions; and occur in episodes. Successful treatment of the primary focus causes the „id“ reaction to disappear.

The occurrence of autoimmune reactions following dermatophytosis has also been described. Here a reaction was seen between the antibody directed against the fungus and the epithelial tissue. It was possible to hold these antibodies back from reacting with the body's own tissues by binding them with fungal extracts.

In veterinary medicine, extracts from destroyed mycelia of *Trichophyton verrucosum*, administered subcutaneously, have been used successfully to prevent infection in calves. Despite close contact with infected animals, 88% of the vaccinated animals did not develop cattle trichophytia. Immunity for over 3 and anything up to 5 years was achieved in this way.

In humans, a major study of 680 patients with severe trichophytia showed that repeated subcutaneous doses of a special fungal extract – in this case from *Trichophyton mentagrophytes* – could cure 78% of patients without requiring further treatment. Topical application for the prophylaxis of pedal mycosis (athlete's foot) was also successful.

It is interesting that a dimorphism phenomenon like that of *Candida albicans* or *Mucor racemosus* has been described in species of *Trichophyton*. Here the primary infection occurs as a result of fungal hyphae entering the smallest of skin lesions. Under the influence of the host's tissue factors, a morphological changeover from the fungal phase to the yeast phase takes place; this is now better adapted to the conditions for growth within the host and has a greater ability to infiltrate the deep tissues – i.e. a greater pathogenicity.

Because of the active principle of the haptens contained in the product SANUKEHL TRICH, by using this remedy it should be possible to bond the antigens which are still circulating during or following a



dermatophyte infection and to remove these through the immune system. This treatment concept would eliminate the pathogenic factors of the trichophytids. The potential autoimmune reactions ought also to be stopped by binding the excess antibodies with the fungal haptens, thus preventing them from reacting with the body's own structures in a destructive way.

Using chemical analyses, it has been demonstrated that the serologically active polysaccharides in the composition of antigens by *Trichophyton verrucosum* and the strongly anthropophil pathogens *Trichophyton rubrum* and *T. mentagrophytes* are very similar. Therefore, one can expect that SANUKEHL TRICH will be effective in diseases in the various forms of tinea, favus and kerion which are caused by other species of trichophyton as well as in cattle trichophytia.

SANUKEHL TRICH is registered in Germany for internal and external application in the form of 6X drops. The 5X injection form is available in Holland for intramuscular and subcutaneous administration.

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