POMPHOLYX OF THE NAIL ORGAN AND THE 
TRUE ONYCHOMYCOSIS

by

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ABSTRACT

Pompholyx is one clinical form of the endoparasitic-hematogenous skin eruptions. It is characterized by sago-grain-like, deeply embedded blisters or pustules within the normal, primarily non-inflamed skin, localized to the palms, soles, fingers, toes and interdigital webs, and in the nail organ. The blisters may be located in the nail wall causing paronychia, and/or beneath the nail plate causing onychia. The discussion of the etiology and pathogenesis of the pompholyx of the nail organ is inseparable from pompholyx at other sites (e.g. palms and soles), since they are identical. Hence, the term "pompholyx" should replace such misleading terms as "infectious eczematoid dermatitis", "id" eruption, of the hand and/or feet, "dermato- or epidermophytosis", "dyshidrosis", and the vernacular "athlete's foot". Even though hyphomycetes (true pathogens and common molds) may be detected in the roof of the blisters, particularly on the feet, and scrapings of detritus from the nails, they have no role in the etiology or pathogenesis of this condition. Due to an universal infection immunity pompholyx is not infectious or transmissible. True onychomycosis is clinically and pathogenetically an entirely different condition. The purpose of this paper is to clarify the fundamental differences in etiology and pathogenesis between the two conditions.

NOMENCLATURE

Pompholyx is a Greek word meaning blister, bleb, or vesicle. It was first used to designate the disease by the English physician, JONATHAN HUTCHINSON, in 1864 (26)*. I re-introduced this term in 1929, when I established the etiology and pathogenesis of this condition (5). Use of the term "pompholyx" is preferable both because of its historical priority and because it is not prejudicial as to the etiology and pathogenesis of the condition.

Thus, it should eliminate such confusing and fallacious terms as "infectious eczematoid dermatitis", "id" eruption of the hands and/or feet such as "bacterid", "staphylid", or "monilid" which result from the improper interpretation of examinations of secondarily in-

*) HUTCHINSON'S first case was "portrayed in 1864 as a remarkable example of the disease and since then I (HUTCHINSON) have used it in public repeatedly for lectures, and described all the features of the malady which it illustrates". J. HUTCHINSON in The Lancet, vol. 1:618—619, April 22, 1876.
ected pompholyx blisters, similarly "dermatol- or epidermophytosis" and also "dyshidrosis" and the vernacular "athlete's foot".

Pompholyx, as defined above, because of an immunity caused and sustained by the permanent endoparasitism of the *B. endoparasiticus*, Benedek, 1927, is neither infectious or transmissible. It, furthermore, is not an "exogenous infection" in any of its clinical manifestations (vesicular, eczematous, hyperkeratotic). Hyphomycetes, yeasts, yeast-like organisms, common molds, and common bacteria such as staphylococci or streptococci have neither a precipitating nor a causative role in any phase. It is not an "id" eruption in the sense of Bruno Bloch and his school. The eruption is not caused by circulating toxins of hyphomycetes introduced from a "primary mycotic focus" on the feet. It is not caused by a virus or specifically by the herpetic virus, as suggested by Sulzberger (34). Finally, it is not a "dyshidrosis" (1) as proposed by Tilbury Fox. Pompholyx has nothing to do with the anatomy or function of the sweat glands. The content of the blister is serum and not sweat.

**Introduction**

Technical advances in mycology, especially since the 1940s, have made it easy to detect microorganisms of all sorts in the superficial layer of the skin and in the detritus of the diseased nail organ. This has led to the unwarranted assumption that microorganisms seen under the microscope or cultured necessarily represent the actual pathogen. Microorganisms were so easily found that investigators in numerous publications from all over the world failed to question the validity of the etiologic and pathogenetic role of the organisms demonstrated. The fact that in many clinically identical cases no microorganisms could be demonstrated was not taken into consideration. No investigator raised the question, so fundamental in dermatology, what the primary lesion of this affliction is.

The story of the discovery of the etiology of pinta (caraté) contains errors similar to those which have been made in regard to pompholyx. This disease was considered to be a "tropical mycosis" because the surface scrapings revealed both microscopically and culturally a great variety of hyphomycetes and yeastlike organisms. Finally, in 1938 Grau Triana in Havana, Cuba, discovered the true cause of pinta, a Treponema. (18, 19) This was confirmed the next year by L. Blanco, (10) who named the pathogen *T. herrejoni* in honor of Doctor Herrejón, who was the first to suggest that pinta is a treponematosis. Numerous analogous errors are scattered throughout the history of medicine.

A few investigators did express doubt about the correctness of the belief of the fungal etiology of pompholyx of the nail organ.

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1) Blister content dropped into 1 ml of concentrated phenol gives a bluish-white opalescence proving the presence of serum.