Ancient Recognition of Mycoses

Fungal skin infection has been confirmed in Egyptian mummies by DNA analysis. According to the Ebers Papyrus (circa 1550BC), skin, hair or nail mycoses may have been treated by henna (known as Kupros or Cyperus). (Figure 1)

Figure 1 - Henna on the hair and nails of an Egyptian mummy (British museum)

The Hippocratic writings (5th century BC) and Celus1 (2585-50AD) both discuss aphthae, believed to be oral thrush. Celus, a Roman encyclopedia and physician, referred to cutaneous fungal infections as porrigo (Latin “to spread”). Porrigo was also known as achores and referred to cutaneous fungal infections as porrigo (Latin “to spread”). 2

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According to the Oxford English Dictionary, tinea was first used in English in 1495.

Figure 2 - Tineola bisselliella - clothes moth and larva with depreedations

Early Treatments

Celus anointed ulcers due to thrush with honey, to which was added shumach.3 Pliny’s remedy for ringworm involved the application of “goat’s gall, in combination with Cimolian chalk and vinegar” or ashe of deer’s horn in wine. He also described injection into the ears a combination of goose grease and garlic juice for porrigo.1

Galen (129 - 200 AD) reported curing “Achor capitis” by treating it with the ashes of burnt paper mixed with vinegar.4 Alexander Masaaria in 1622 described purging children with adshores with rhubarb and calomel, put leeches behind their ears and then put sulphur on the head. Daniel Turner in London in 1723 treated children with tinea or “scall’d head” by “bleeding and general purgation” then describes hair removal by either “pulling them up by the roots with fine nippers, or drawing them up all at once (the painful) by a Pitch or other plaster” or by clipping then using caustic depliarteses followed by a wide range of topical treatments.5 Bateman recognised that this treatment “...often inflicted great injury to the scalp, and retarded, rather than expedited the progress to recovery.”6

David Gruby, a Hungarian, published accounts of Trichophyton favus, Microsporum audouini and Trichophyton tonsurans in the skin from 1844. He isolated the fungus “favus” grown on slices of potatoes (prior to agar). He established the contagious nature of mycoses by inoculating the arms of Professor Rinneker of Wurzburg and himself with favus. Gruby also suggested diagnostic criteria for “la vrai teigne” (ringworm) which included microscopic features of round corpuscles (microconidia) and small seplate filaments (hyphaes).

With the advent of simple laboratory techniques, fungi could be isolated and identified. 7 William Tilbury Fox published “Les Teignes” in 1910 in which he clarified clinical descriptions and culture features which provided the basis for classifications used today.

Robert Willan (1757-1812) and Thomas Bateman (1778-1821) in London described fungal infections as porrigo in their defining classification. Bateman clearly highlights the features of tinea capitis, “(it) appears in...patches...upon the scalp...with clusters of small light-yellow pustules...which become thick and hard...As the patches extend, the hair covering them becomes lighter in its colour and sometimes breaks off.”8 William Tilbury-Fox (1836-79) modified the Willan-Bateman classification and illustrations - see figure 4 and 5.

Saboraud (1864-1938), a French dermatologist, then published “Les Teignes” in 1910 in which he clarified clinical descriptions and culture features which provided the basis for classifications used today.

Establishing causality between fungi and cutaneous eruptions

The association between mycoses and human skin was first made by Schoenlein, who in 1839 described Trichophyton favus (subsequently named Trichophyton schoenleinii).

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Figure 4 - i) Tinea tonsurans. Chromo-lithography of watercolour painting


Figure 5 - Detailed description of parasitic fungal diseases according to Tilbury-Fox. (Skin Diseases: their description, pathology, diagnosis and treatment. Published by Renshaw 1873).

Figure 6 - Girl with tinea infection of her chin caught from her pet hedghog.

Later Treatments

With the ease of microscopic diagnosis it now seems incredible that some nineteenth century dermatologists refused to accept that Tinea was due to a fungal infection. Erasmus Wilson (1809 - 1884), the leading UK dermatologist of his era, considered the disease to be entirely constitutional. He advocated isolating affected children and giving them a sound animal diet and good British beer (such as “Brewer’s porter”).

However most accepted the fungal aetiology. An English ringworm school was set up in 1910 in Witham, Essex, with Tilbury Fox’s brother, Tommy Colcott Fox, as the visiting dermatologist. Here, afflicted children were treated and instructed. Prevention of spread through the air was minimised by burning sulphur and daily sponging of healthy heads with diluted sulphurous acid or acetic acid.9 They recommended that “children (with ringworm) should do little if any work and have plenty of out-door exercise”.

Prior to the introduction of Griseofulvin and Chlorimazole in 1955, topical agents such as Whitfield’s Ointment (1912) and Castellan’s paint (1928) were the probably the most effective antifungals. Saboraud and Keinböck (1910) introduced the newly discovered X-rays for scalp ringworm. (figure 7)

Many of the patients treated today may still pay the malignant price for the overenthusiastic adoption of this new therapy. Griseofulvin has remained the mainstay of treatment for children with Tinea Capitis for nearly 50 years. In the UK it remains the only licensed effective treatment although terbinafine is used off-license by many dermatologists.

We suspect that many young people, given the choice, might still wish to supplement this with the historical approaches of “less work and a good beer.”

Figure 7 - J.E.M. Macleod (1920) commissioned an X-ray apparatus for epilation having visited Saboraud’s clinic in 1904.

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References


"Less Work and Good Beer!" - an Historical Review of Fungus and the Skin

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Figure 3 - painting in the Hermandad de la Santa Carida, Seville, of St Elizabeth of Hungary washing the head of a child possibly suffering from tinea capitis by Murillo (1617-82).

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