



## Goya and tinea favosa\*

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**Abstract:** A case of a tinea favosa involving the scalp of a child represented in the painting "Boys climbing a tree" (Muchachos trepando a un árbol), by Francisco Goya y Lucientes, with pictorial representation of favic scutula and consequent alopecia.

**Keywords:** Alopecia; Dermatomycoses; Scalp dermatoses; Tinea; Tinea capitis; Trichophyton

*Tinea capitis* is an infection caused by dermatophytes of the genera *Microsporum* and *Trichophyton*. It is related to population clusters and poverty zones, occurs predominantly in children, and is transmissible through interpersonal contact between humans and animals, and by fomites.

In the UK and the USA 90% of cases are caused by anthropophilic fungi such as *T. tonsurans*. Conversely, an increase in the prevalence of tinea capitis caused by zoophilic species has been recently reported in the UK, particularly in children who have migrated from endemic areas. Contamination by zoophilic species has also been related to the relative intimate contact between humans and pets.<sup>1</sup>

According to the patterns of contamination, tinea of the scalp is classified into 2 types: ectothrix, whose invasion occurs on the outside of the hair shaft where the hyphae appear to be fragmented into arthroconidia, and which may eventually lead to the destruction of the cuticle; and endothrix, whose infection occurs within the hair shaft, where the arthroconidia or spores are found, without destroying the cuticle. The latter is further subdivided into: black-dot tinea capitis, Kerion Celsi and Favus.<sup>1</sup>

Favus or tinea favosa is the most severe form of tinea capitis. Besides the scalp, it may involve glabrous skin, hairy regions and nails.<sup>2</sup> Outbreaks have been reported in Brazil. The disease frequently occurs in children and is rare in adults. It may become chronic and persist into adulthood. If not treated properly, it can leave scar lesions.<sup>3</sup>

Tinea favosa occurs in micro-endemic clusters - with high risk of household transmission - in rural areas and among individuals living in poor hygienic conditions. It predominates in Africa, the Middle East and Mediterranean regions and is rarely reported in the U.S. and Western Europe.<sup>4</sup> Its incidence has declined worldwide except in China, Iran and Nigeria.<sup>5</sup>

Its etiologic agent was first described by the German physician Johann Lukas Schoenlein in 1839 and isolated by Robert Remak, who named it *Achorion schoenleinii*. A new classification excluded genus *Achorion* and recognized three categories: *Microsporum*, *Trichophyton* and *Epidermophyton*.<sup>6</sup>

Tinea favosa of the scalp belongs to the group that does not produce hair loss. It has been caused mainly by *T. schoenleinii* and less often by *Trichophyton*

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*violaceum*, *T. mentagrophytes* var. *quinckeanum*, *Microsporium canis* and *gypseum*. A recent analysis of the mitochondrial DNA sequence identified a similarity between *T. Schoenleinii* and *mentagrophytes* var. *quinckeanum*, the causal agent of favus in rats, and which may occasionally affect humans.<sup>1,5,7</sup>

The most common clinical manifestations on the scalp are yellowish circular concretions around the hair follicles, with a cup-shaped depressed central area (favic scutula).

Other presentations were classified by Sabouraud: a) pityroid favus—predominance of desquamation in large plaques, the hair acquires adult gray color, the scutula can be seen after scraping the scales and it is often confused with seborrheic dermatitis and psoriasis; b) papyroidfavus - a rare form occurring in epidemics, characterised by adherent, parchment-like crusts and revealing moist erythematous erosions upon removal; c) impetiginoid favus - the suppurative-crusty element predominates, there are few lesions with meliceric crusts and no scutula.<sup>3</sup>

On the scalp, the scutula is rarely associated with infections caused by *M. gypseum*, *T. violaceum* and *T. mentagrophytes* var. *quinckeanum*. In this region, *T. schoenleinii* is the main responsible for causing the disease. It may also occur in other areas such as the scrotum, beard and glabrous skin, and be caused by other agents, such as *M. gypseum*.<sup>8</sup>

The diagnosis is confirmed by direct mycological examination and culture. Under Wood's lamp, a gray-green fluorescence may be observed. Optical microscopy shows invasion by the fungus, hyphae parallelly arranged to the axis, air bubbles, and a few spores.<sup>1</sup>

Hannelore Mittag described a probable tinea favosa represented in the painting "Christ Carrying the Cross"/Bosch, Hieronymus.<sup>9</sup> In the current study, alopecia can be seen in the crouching child represented in the painting "Boys climbing a tree" by Goya (Figure 1). A detailed examination reveals gray circular spots (characterized by vigorous brushwork) in the parietal-occipital region of the scalp (Figure 2). Below, there is a lighter area. Thin brushstrokes in the frontal and occipital region represent rarefied hair (Figure 3)

The diagnostic hypothesis of tinea favosa, among many possibilities, was raised due to the marked similarity between the semiological elements found both in the classic description and in the painting. These elements do not seem to have been placed at random and pictorially represent favic scutula and consequent alopecia. Therefore, Goya would have recorded a typical manifestation of tinea favosa, whose causal agent would only be described 48 years later. Other diagnoses are: Amiantacea tinea, Kerion Celsi, impetigo, psoriasis, lichen planus and cutaneous lupus.



FIGURE 1: Painting "Boys climbing a tree" / Goya y Lucientes, Francisco de / oil on canvas / c. 1791 - 2 / © Madrid, El Prado National Museum, Spain / 141 X 111 cm. Detail. Alopecia can be seen on the scalp of the crouching child

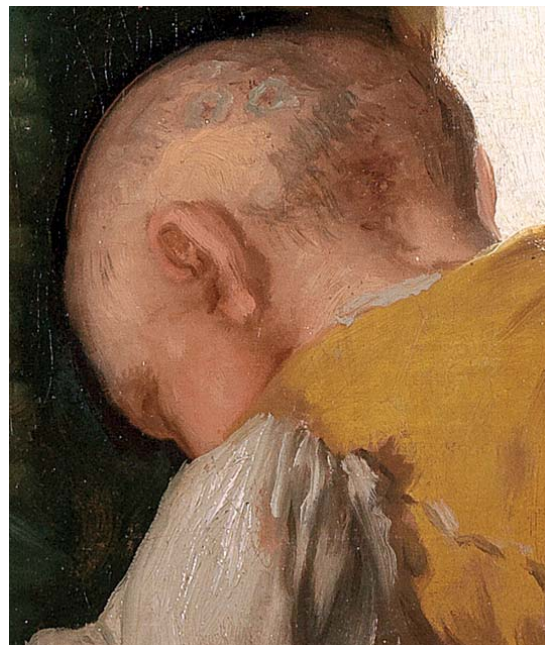


FIGURE 2: Detail of the painting "Boys climbing a tree" / Goya y Lucientes, Francisco de / oil on canvas / c. 1791 - 2 / © Madrid, El Prado National Museum, Spain / 141 X 111 cm. Gray circular spots (favic scutula) in the left parietal-occipital region of the scalp can be seen. A lighter area below the spots represents the scalp skin (consequent alopecia)



FIGURE 3: Painting "Boys climbing a tree"/ Goya y Lucientes, Francisco de / oil on canvas/ c. 1791 - 2 / © Madrid, El Prado National Museum, Spain / 141 X 111 cm, seen in greater detail. Presence of gray circular spots (favic scutula). A lighter area below the spots represents the scalp skin (consequent alopecia)

The painting was created between 1791 and 1792. Goya was instructed to paint a series of cards to decorate the office of the Spanish King Charles IV in the Palace of San Lorenzo de El Escorial, Madrid. In this scene, three poorly dressed boys climb a tree, perhaps to pick nests or fruits. It was the last project of this kind done by Goya.<sup>10</sup> □

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