Syphilitic alopecia: uncommon trichoscopic findings

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ABSTRACT

Syphilitic alopecia (SA) is considered an uncommon manifestation of secondary syphilis. SA can present in a diffuse form, resembling telogen effluvium, or in a moth-eaten form that mimics a variety of conditions (i.e., alopecia areata, trichotillomania, lichen planus pilaris or tinea capitis). When the two forms coexist, we observe a mixed pattern. Essential SA manifests without evidence of mucocutaneous syphilis manifestations and its diagnosis is often delayed. To date, trichoscopic description of SA forms are based on very few cases (i.e., five patients with moth-eaten SA and one with diffuse SA). This is the first report of a mixed pattern of essential SA: some new trichoscopic features—such as tapered bended hairs, erythematous background, diffuse scaling and perifollicular hyperkeratosis—are described in a 32-year-old man. In the absence of secondary syphilis manifestations, dermoscopy can be a useful tool that helps suspect and differentiate SA from its common mimickers.

Introduction

Syphilis is well known as “the great imitator” as it can present with a wide range of clinical manifestations mimicking other diseases. In addition, atypical manifestations are common and different stages can overlap. Among the signs of secondary syphilis, syphilitic alopecia (SA) is traditionally considered infrequent, with a prevalence ranging from 2.9 to 22.2% [1-3]. However, its prevalence could be underestimated due to its possible subtle presentation and difficult diagnosis. SA is defined essential when alopecia is the only manifestation and symptomatic when mucocutaneous signs are [2-6]. According to its clinical appearance, SA is further classified into three forms: 1) moth-eaten, or patchy alopecia characterized by small alopecic patches irregularly distributed over the scalp; 2) diffuse alopecia, characterized by a diffuse hair loss; and 3) mixed form (i.e., combination of diffuse hair loss and alopecic moth-eaten patches) [2-7]. The trichoscopic findings of SA reported to date are based on the observation of six cases only: five cases of moth-eaten SA [4,5] and one case of diffuse SA [5]. We here report a case of a mixed SA form, highlighting the presence of some new trichoscopic features that have not been previously observed.
leukocytosis, raised erythrocyte sedimentation rate, and C-reactive protein. Serological tests for HIV and hepatitis B and C virus were negative. The patient received benzathine penicillin G 2.4 million units intramuscularly. Hair regrowth occurred after two months. VDRL titer was 1:64 after four months and 1:16 after eight months.

Discussion

Alopecia could be an important sign for orienting the clinical diagnosis towards secondary syphilis, as in our case. The tropism of *Treponema pallidum* for the hair bulge epithelium and peribulbar capillaries was demonstrated by scalp biopsies detecting spirochetes in the peribulbar region and penetrating into the follicle matrix [8]. The current hypothesis supporting the pathogenesis of SA is a vasculitis of peribulbar capillaries causing a perifollicular lymphocytic infiltration with scattered plasma cells that stops the hair cell cycle [6,7].

SA may clinically mimic a wide range of hair disorders, including alopecia areata (AA) [7], trichotillomania, lichen planus pilaris, tinea capitis, telogen effluvium, and androgenetic alopecia [2-10]. Thus, the diagnosis may be delayed, especially when SA is the unique manifestation of secondary syphilis and primary syphilis signs are absent or not reported (i.e., essential SA).

Scalp dermoscopy can help in diagnosing SA: the trichoscopic findings of moth-eaten SA were recently described, based on the observation of five patients [4,5]. In particular, Ye et al. observed black dots, focal atrichia, hypopigmentation of hair shaft and yellow dots in the center of the alopecic patches along with few black dots at the periphery of the

Clinical Case

A 34-year-old man presented for alopecia of the scalp and eyebrows for one month. He was under treatment with neuroleptic drugs for bipolar disease, anxiety and obsessive traits. He described a mild erythematous rash involving the trunk and headache and malaise for some weeks. Clinical history was otherwise unremarkable. He denied having any genital lesions before hair loss started. On clinical examination, scattered small alopecic patches of 0.8 to 1.5 cm in diameter were present on the parietal-temporal-occipital areas of the scalp (Figure 1) with a moth-eaten appearance. Diffuse hair loss of the entire scalp was also evident. The eyebrows showed mild diffuse reduction in hairs rather than clear alopecic patches (Figure 1a). The scalp appeared diffusely erythematous and scaling. Neither trichodynia nor itching was present. Gentle pull test was negative. Trichoscopic examination of the moth-eaten alopecic patches revealed a nonscarring alopecia (Figure 2). Yellow dots were detected in the center of the patches, along with few black dots. Diffuse whitish scaling, erythematous background, and focal follicular hyperkeratosis were also observed. Vellus hairs were detected at the periphery of the alopecic patches. Interestingly, we could observe some variously bent tapering hairs; in some cases a double-bending was visible, resulting in a serpiginous appearance.

Clinical history along with physical and trichoscopic findings suggested a diagnosis of secondary syphilis with a SA of mixed pattern. Serological screening was performed, revealing a positive Venereal Disease Research Laboratory (VDRL) at a titer of 1:256 and a reactive Treponema pallidum particle hemoagglutination assay. Routine blood analysis revealed
tapered bended hairs are likely to be the expression of the chronic peribulbar sparse lymphocytic infiltration elicited by *T. pallidum* [6-8]. The diffuse fine scaling and the erythematous background that we observed in our case was in favor of a large involvement of the scalp (diffuse type of SA) and can be regarded as part of the exanthema of the secondary syphilitic infection. Interestingly, hyperkeratosis was found both around the proximal part of some hair shafts and within some empty follicular ostia.

Clinically, moth-eaten SA is considered the main simulator of AA [2,3,7] (Figure 3), and a scalp biopsy of moth-eaten SA forms may be required to exclude AA in doubtful cases [6,7]. Trichoscopy helps to differentiate between these two conditions; exclamation point hairs (3-5 mm short, wide at the top and very thin as they enter the scalp) are considered the hallmark of AA, along with numerous yellow and black dots and vellus hairs [9,10]. In addition, vellus hairs are usually observed in the center of the AA patch, whereas in SA they appear at the periphery [9,10]. Unbended tapering hairs are seldom observed in AA and mainly in the subacute phase [10]. Trichotillomania can clinically simulate both SA and AA, presenting with irregularly shaped alopecic patches distributed mainly on the occipital, parietal and vertex region, over an

Figure 2. Dermoscopy of the scalp. Empty ostia and yellow dots are visible in the center of the alopecic patches over an erythematous background. Tapered bent hairs (arrows) are present at the periphery of the alopecic patches. Vellus hair are visible at the periphery (a,b,d). Scales appear to be thin and withish; perifollicular hyperkeratosis is focally visible (b,c,d). [Copyright: ©2017 Tognetti et al.]
manifestations, a condition that is increasing nowadays, likely due to an improper concomitant antibiotic treatments [1-6]. Dermoscopy represents a useful, noninvasive, rapid, and inexpensive tool that helps the physician to suspect SA [10]. Further descriptions are necessary to confirm these trichoscopic findings of the mixed pattern of SA, a rare condition where moth-eaten and diffuse alopecia coexist.

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