

Unusual Diffuse Hair Loss

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CASE REPORT

A 35-year-old Taiwanese man reported gradual diffuse hair loss on his scalp and bilateral eyebrows for 2 months. He had had chronic urticaria for more than 4 years. He denied taking new medications or having been ill during the preceding 6 months. He denied having unprotected sex or having been exposed to any blood or serum products. Two months prior to the manifestation of hair loss, he had a transient generalized maculopapular eruption which occurred 1 day after receiving an influenza vaccination. There was no family history of androgenetic alopecia.

A physical examination revealed diffuse thinning of the hair with decreased hair density of the scalp, especially over the vertex region (Fig. 1). A hair pull test showed that one to two telogen hairs were pulled out each time. The initial clinical differential diagnoses included androgenetic alopecia, telogen effluvium, and the diffuse type of alopecia areata. Blood tests for a complete blood cell count and an antinuclear antibody were within normal limits. A 5% minoxidil solution was prescribed, but diffuse thinning of the hair with decreased hair density seemed to have progressed at the 1-month follow-up. Therefore, further examinations were performed. Serologic tests for syphilis demonstrated a rapid plasma regain (RPR) titer of 1: 32x. *The Treponema pallidum* hemagglutination assay was also positive (1: 5120x). Meanwhile, due to a palpable enlarged thyroid gland during the physical examination, a thyroid function test was performed but results were normal. The remainder of the skin and mucous membrane examination was normal. The patient was treated with an intramuscular injection of 2.4×10^6 units of benzathine benzylpenicillin once a week for three times. In 2 months, there was dramatic hair re-growth (Fig. 2A, B) and a gradual decline in the RPR titer (1: 16x).

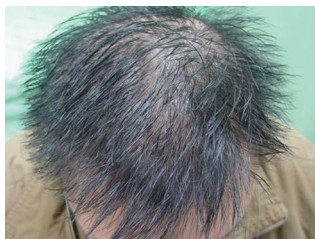


Fig. 1

Diffuse thinning of the hair, especially over the vertex of the scalp.

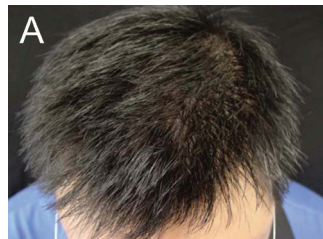


Fig. 2

(A, B) Within 2 months after an intramuscular injection of 2.4×10^6 units of benzathine benzylpenicillin once a week for 3 weeks, dramatic hair re-growth was observed.

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DIAGNOSIS: Essential Syphilitic Alopecia

DISCUSSION

Syphilis, known as “the great imitator”, can have numerous and complex manifestations and should be included in the differential diagnoses of a broad array of other illnesses.¹ Hair loss in secondary or latent syphilis occurs infrequently, with an incidence of up to 7% having been reported.² In 1940, McCarthy³ described two types of secondary syphilitic alopecia: a “symptomatic alopecia” of either a patchy or diffuse pattern associated with an actual secondary lesion, and an “essential syphilitic alopecia” that is either patchy, diffuse, or a combination of the two with no other cutaneous signs of syphilis. Furthermore, three forms of essential syphilitic alopecia have been described: 1) the classic, patchy, “moth-eaten” form; 2) a generalized thinning of the hair; and 3) a “moth-eaten” type combined with general thinning of the scalp hair.^{3,4} The “diffuse hair loss” pattern with generalized thinning of essential syphilitic alopecia as the only manifestation of syphilis is uncommon and is rarely mentioned except in older reports.⁴ Although clinical differential diagnoses of telogen effluvium and a diffuse type of alopecia areata should have been taken into consideration, a serologic check for syphilis was sufficient to ascertain the diagnosis in this case.

Literature on the histopathological features of syphilitic alopecia is scanty. Lee *et al.*⁵ observed several histologic patterns in which syphilitic alopecia may closely simulate alopecia areata. In that study, the clinical patterns of syphilitic alopecia were moth-eaten in four patients and diffuse but slightly moth-eaten in five. Histologically, there are diminished hair follicles, with increased numbers of catagens and telogens. Lympho-

cytic infiltration is present around the hair bulbs and fibrous tracts in most circumstances. The presence of peribulbal eosinophils may favor a diagnosis of alopecia areata. The presence of plasma cells, abundant lymphocytes in the isthmus, or parabulbal lymphoid aggregates without peribulbal eosinophils suggest syphilitic alopecia.

History taking and a physical examination are central to narrowing the differential diagnoses of hair diseases, which may greatly influence the subsequent treatment planning. In this case, the presentation was suggestive of androgenetic alopecia, diffuse alopecia areata, or less likely, telogen effluvium. Furthermore, there was no strong evidence supporting a syphilitic infection or thyroid dysfunction on the patient’s first visit; thus, a serology test was not performed. All these factors led to a delayed diagnosis of syphilitic alopecia whose myriad presentations can mimic various kinds of disease processes.

A diagnosis of secondary/latent syphilis may be considerably delayed when the only manifestation is hair loss which is not accompanied by other clinical signs. The case herein provides cautionary insights for dermatologists that serological screening for syphilis should be performed for any unexplained patchy or diffuse hair loss.

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