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Case report ■

Diffuse Hair Loss in Secondary Syphilis in HIV Positive Man: Case Report

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SUMMARY

Hair loss is not a common feature of secondary syphilis. There are two types of syphilitic alopecia: “symptomatic” type where hair loss is associated with other symptoms of secondary syphilis, and “essential” alopecia that is either patchy (“moth-eaten” type), diffuse pattern with a generalized thinning of the scalp hair, or a combination of both without any other mucocutaneous signs of syphilis. This article presents a case of syphilitic alopecia in a 30-year-old homosexual man. The patient had diffuse non-scarring alopecia of his scalp and loss of eyelashes and eyebrows. A macular rash with palmar-plantar involvement and oral lesions coexisted with the hair loss. Serological tests for syphilis were positive. The patient was treated with a single dose of benzathine penicillin G, 2.4 million units intramuscularly. Within three months there was dramatic hair regrowth, and all syphilitic lesions resolved. Patient was counselled and tested on HIV. The HIV seropositivity was confirmed by Western blot analysis.

Syphilitic alopecia should not be overlooked in patients with non-scarring hair loss. Serologic testing for syphilis is recommended in patients with unexplained rapid hair loss. However, all patients presenting with syphilis should be offered HIV testing.

Key words: alopecia, secondary syphilis, HIV

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INTRODUCTION

Syphilis is a bacterial sexually transmitted infection caused by *Treponema pallidum*. The disease has several stages. The signs and symptoms of secondary syphilis may develop two to six months after infection, and usually four to ten weeks after the appearance of the primary change. Generalized clinical manifestations during this stage occur and may affect almost any organ system of the body (1).

Hair loss can occur as patchy “moth-eaten” thinning occurring in small irregular areas or rarely as a diffuse telogen effluvium. Loss of eyelashes and lateral third of the eyebrows also occur in secondary syphilis. Hair loss may be associated with other lesions of secondary syphilis - “symptomatic alopecia” or may be the only manifestation of the disease - “essential syphilitic alopecia” (2).

This article presents a case of "symptomatic" syphilitic alopecia in a homosexual man.

CASE REPORT

A 30-year-old homosexual man was referred to the City Institute for Skin and Venereal Diseases complaining of localized eruptions on the palms and soles that had appeared three weeks before. Examination revealed papulosquamous lesions on the palms (Figure 1) and soles and pale maculopapular rash on the trunk. Further examination also revealed the mucous patches on the tongue and in the oral cavity, followed with bilateral cervical lymphadenopathy. The patient had diffuse non-scarring alopecia of the scalp (Figures 2 and 3) and loss of eyelashes and eyebrows (Figure 4). These areas of alopecia were free from other cutaneous lesions, and a gentle hair pull produced a dozen normal telogen hairs (Figure 5).



Figure 1. Characteristic papulosquamous lesions of secondary syphilis on the palms



Figure 2. Diffuse hair loss of the scalp



Figure 3. Diffuse alopecia with hair thinning



Figure 4. Loss of eyelashes and eyebrows



Figure 5. The hair pull test was positive. After a gentle traction more than ten hairs came out

Additional details of the patient's history were obtained and the patient admitted to a single unprotected receptive oral sex with an unknown male 6 months before the onset of skin lesions and alopecia. He remembered a non-tender lesion on his upper lip approximately five months before, but had sought no medical care.

Serological results included positive nontreponemal reaction - Venereal Disease Research Laboratory (VDRL) test titer was 1:32, with specific *Treponema Pallidum* Hemagglutination Assay (TPHA) test being positive as well. Patient declined testing on HIV.

Patient was treated with a single dose of benzathine penicillin G, 2.4 million units intramuscularly. Within three months there was dramatic hair regrowth, and all syphilitic lesions resolved and the VDRL titer declined (1:8).

However, the examination of oral mucosa revealed white corrugated plaque on the lateral and inferior surface of the tongue. Oral hairy leukoplakia was diagnosed clinically. This virally induced hyperplasia occurs almost exclusively in HIV-infected individuals, especially homosexual men. Patient was counselled and tested on HIV. The HIV seropositivity was confirmed by the Western blot analysis.

DISCUSSION

Hair loss is not a common feature of secondary syphilis. Literature data have shown that prevalence of syphilitic alopecia ranges from 2.9 percents to 11 percents, with a predominance in homosexual men (3- 5).

However, syphilis incidence has increased worldwide, occurring primarily among men who have sex with men (6, 7). The HIV infection rate is high in patients with syphilis. Blocker et al. reported that seroprevalences for HIV among homosexual men in the USA ranged from 64% to 90% (8). On the other hand, the course of syphilis in an HIV-infected patient may be altered from the natural history of the disease (9).

In a study of 24 HIV positive patients with syphilis conducted in Brazil, 15 out of 24 had secondary syphilis and 3 patients (20%) presented with syphilitic alopecia (10). In the case series of secondary syphilis among 10 homosexual men in our Institute, two of them (20%) presented with alopecia, both HIV-infected (11). Our patient with syphilitic alopecia was HIV-infected, too.

These facts along with the current data raise the question whether the prevalence of syphilitic alopecia differ between HIV negative and HIV positive patients. Nevertheless, it could not be deduced herein because of the small number of patients.

Even though the pathogenesis of syphilitic alopecia has not been completely elucidated, the presence of *Treponema pallidum* in the hair follicle suggests that alopecia may be caused directly by spirochetes (12). There are two types of syphilitic alopecia: "symptomatic" type where the hair loss is associated with other symptoms of secondary syphilis, and "essential" alopecia that is either patchy ("moth-eaten" type), diffuse pattern with a generalized thinning of scalp hair, or a combination of both without any other mucocutaneous signs of syphilis (2). Of these, "moth-eaten" pattern is the most common and most characteristic (13).

Our patient had the "symptomatic" type with generalized thinning of the scalp hair and alopecia on the lateral part of his eyebrows and eyelashes. A macular rash with palmar-plantar involvement and oral lesions coexisted with the hair loss. The hair pull test in our case was positive. After a gentle traction more than ten hairs came out. Even though syphilitic alopecia predominantly affects the scalp, hair loss can involve any body area (2).

Common mimickers of diffuse syphilitic alopecia include telogen effluvium and androgenic alopecia. Telogen effluvium is the transient increased shedding of normal club hairs from resting scalp follicles secondary to accelerated shift of anagen into catagen and telogen, which results clinically in increased daily hair loss and if severe, thinning of hair. Hair loss occurs diffusely throughout the scalp. Androgenic alopecia is the common progressive balding which occurs through the combined effect of a genetic predisposition and the action of androgen on the hair follicles of the scalp. Males usually exhibit patterned loss in the frontotemporal and vertex areas. Clinical conditions that mimic "moth-eaten" syphilitic alopecia include alopecia areata, alopecia neoplastica, tinea capitis and trichotillomania (14).

A complete skin examination for other mucocutaneous lesions of secondary syphilis and serological tests evaluating for syphilis should be done to confirm the diagnosis.

The treatment of choice for secondary syphilis is a single dose of benzathine penicillin G, 2.4 million units intramuscularly. Alopecia usually resolves within three months of treatment as described in our patient.

Syphilitic alopecia should not be overlooked in patients with non-scarring hair loss. Serologic testing for syphilis is recommended in patients with unexplained

rapid hair loss. However, all patients presenting with syphilis should be offered HIV testing.

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DIFUZNA ALOPECIJA U SEKUNDARNOM SIFILISU KOD HIV POZITIVNE OSOBE: PRIKAZ SLUČAJA

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Sažetak

Sifilitična alopecija je retka manifestacija sekundarnog sifilisa. U kapilicijumu može doći do difuznog proređivanja dlake ili pojave malih zona proređene dlake nepravilnog oblika u vidu tzv. "kapilicijuma izjedene nog moljcima".

U radu prikazujemo muškarca, starog 30 godina, homoseksualne orijentacije, koji se obratio dermatovenerologu zbog osipa po koži. Pregledom je utvrđeno prisustvo makuloznog egzantema po trupu, eritemoskvamoznih papula na dlanovima i tabanima i oralnih lezija. U kapilicijumu je postojala difuzna necikatricijalna alopecija, koja je zahvatila trepavice i obrve. Rezultati seroloških testova na sifilis bili su pozitivni. Bolesnik je lečen jednom dozom benzatin penicilina G od 2,4 miliona jedinica. Tokom naredna tri meseca došlo je do znatnog porasta kose i povlačenja svih mukokutanih manifestacija sifilisa. Kontrolni netreponemski serološki test pokazao je četverostruki pad titra. Nakon savetovanja, urađen je test na HIV, koji je bio pozitivan, uz potvrdu nalaza Western blot-tehnikom.

Kod bolesnika sa necikatricijalnom alopecijom nejasne etiologije trebalo bi uraditi i serološke testove za dokazivanje sifilisa. Obolelima od sifilisa trebalo bi predložiti i testiranje na HIV zbog čestih koinfekcija.

Ključne reči: alopecija, sekundarni sifilis, HIV