

## Secondary Syphilis with Palmoplantar Rash Revealing Previously Undiagnosed HIV Infection: A Dermatological Case Report

B. Amine<sup>1\*</sup>, Fz. El Fetoiki<sup>1</sup>, F. Hali<sup>1</sup>, S. Chiheb<sup>1</sup>

<sup>1</sup>Department of Dermatology and Veneorology, CHU Ibn Rochd, Casablanca, Morocco

DOI: <https://doi.org/10.36347/sjmcr.2026.v14i03.057>

Received: 08.02.2026 | Accepted: 24.03.2026 | Published: 28.03.2026

\*Corresponding author: B. Amine

Department of Dermatology and Veneorology, CHU Ibn Rochd, Casablanca, Morocco

### Abstract

### Case Report

**Background:** Secondary syphilis is a systemic manifestation of *Treponema pallidum* infection characterized by highly polymorphic mucocutaneous lesions. Palmoplantar involvement is a characteristic but often overlooked sign. Syphilis and HIV coinfection is increasingly reported and represents a major public health concern. **Case presentation:** A 47-year-old man presented with a generalized non-pruritic maculopapular eruption involving the trunk, extremities, palms, and soles. He reported a prior painless genital ulcer and high-risk sexual behaviour. Serological tests confirmed secondary syphilis, and HIV screening revealed previously undiagnosed infection. Treatment with intramuscular benzathine penicillin G led to rapid clinical resolution of cutaneous lesions. **Conclusion:** This case highlights the diagnostic value of palmoplantar involvement in secondary syphilis and underscores the importance of systematic HIV screening. Dermatologists play a pivotal role in the early detection of sexually transmitted infections.

**Keywords:** Secondary syphilis, palmoplantar rash, HIV coinfection, *Treponema pallidum*, dermatology, case report.

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## INTRODUCTION

Syphilis is a chronic systemic sexually transmitted infection caused by the spirochete *Treponema pallidum*. Despite the availability of effective antibiotic therapy, syphilis has re-emerged globally over the past decade, with increasing incidence in both developed and developing countries. Secondary syphilis represents the disseminated stage of the disease and is characterized by diverse mucocutaneous manifestations, making diagnosis challenging.

The classic rash of secondary syphilis is diffuse, symmetric, non-pruritic, and maculopapular, affecting the trunk and extremities. However, these features are nonspecific and often mimic other dermatoses, including pityriasis rosea, psoriasis, viral exanthems, drug eruptions, and acute HIV seroconversion. Palmoplantar involvement is considered a hallmark of secondary syphilis and should prompt serological testing.

Syphilis and HIV share common transmission routes and frequently coexist. Syphilitic lesions facilitate HIV acquisition and transmission, while HIV infection may modify the clinical course of syphilis. Early recognition of syphilis may therefore lead to the diagnosis of underlying HIV infection.

We report a dermatological case of secondary syphilis with palmoplantar involvement revealing previously undiagnosed HIV infection and discuss its clinical and epidemiological implications.

## CASE PRESENTATION

A 47-year-old man with no significant past medical history presented to the dermatology department with a generalized skin eruption evolving for three weeks. The rash was non-pruritic and symmetrically distributed over the trunk and extremities, including the palms of the hands and soles of the feet.

The patient reported a painless genital ulcer that had appeared approximately two months earlier and healed spontaneously. He also described high-risk sexual behaviour, including unprotected sexual intercourse with multiple partners.

Dermatological examination revealed a diffuse maculopapular eruption composed of erythematous to copper-coloured lesions on the trunk and limbs. Palmoplantar lesions consisted of well-defined erythematous macules and papules. Examination of the oral cavity revealed discrete mucous patches. No

condylomata lata or significant lymphadenopathy were observed.

Serological investigations showed a positive rapid plasma reagin (RPR) test and a positive *Treponema pallidum* hemagglutination assay (TPHA), confirming the diagnosis of secondary syphilis. As part of routine sexually transmitted infection screening, HIV serology was performed and returned positive. Other sexually transmitted infection tests were negative.

The patient was treated with intramuscular benzathine penicillin G (2.4 million units) in accordance with international guidelines. Complete regression of cutaneous lesions was observed within two weeks. The patient was referred to an infectious diseases unit for HIV management and follow-up.

## DISCUSSION

Secondary syphilis is classically referred to as the “great imitator” because of its wide range of clinical presentations. Cutaneous manifestations occur in up to 90% of patients and may present as macular, papular, papulosquamous, nodular, or pustular lesions. Palmoplantar involvement is a distinctive feature that helps differentiate secondary syphilis from other dermatoses.

The differential diagnosis includes pityriasis rosea, psoriasis, viral exanthems, drug-induced eruptions, and acute HIV infection. Mucous patches and condylomata lata are additional clinical signs that support the diagnosis.

Histopathologically, secondary syphilis is characterized by a superficial and deep perivascular infiltrate composed predominantly of lymphocytes and plasma cells, endothelial swelling, and occasional detection of spirochetes using special staining techniques or immunohistochemistry.

Syphilis and HIV coinfection is well documented. HIV infection may alter the natural history of syphilis, leading to atypical or more severe manifestations and increased risk of neurosyphilis. Conversely, syphilis increases HIV viral load and enhances transmission. The coexistence of these infections represents a significant public health challenge.

The rising incidence of syphilis in North Africa highlights the importance of strengthening screening strategies and clinician awareness. Dermatologists often represent the first point of contact for patients with sexually transmitted infections, emphasizing their critical role in early diagnosis.

This case illustrates the importance of careful dermatological examination, including the palms, soles,

and oral mucosa, in patients presenting with unexplained rashes. Systematic HIV screening should be recommended in all patients diagnosed with syphilis.

## CONCLUSION

Secondary syphilis should be considered in any patient presenting with a generalized rash involving the palms and soles, particularly in the presence of sexual risk factors. Early dermatological recognition not only enables prompt treatment of syphilis but may also reveal underlying HIV infection. Systematic screening and interdisciplinary management are essential to improve patient outcomes and reduce transmission.

### Ethics Statement

Written informed consent was obtained from the patient for publication of this case report.

### Conflict of Interest

The authors declare no conflicts of interest.

### Funding

The authors received no specific funding for this work.

### Author Contributions

All authors contributed to the clinical management of the patient and to the drafting and revision of the manuscript.

### Highlights

- Secondary syphilis may present with polymorphic cutaneous manifestations mimicking common dermatoses.
- Palmoplantar involvement remains a key diagnostic clue for dermatologists.
- Systematic HIV screening is essential in patients diagnosed with syphilis.
- Early dermatological recognition can reveal underlying HIV infection and improve patient outcomes

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