International Journal of Research in Medical Sciences
Jalal F et al. Int J Res Med Sci. 2024 Dec;12(12):4763-4766
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20243742

Case Report

Great imitator-syphilis

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Received: 20 October 2024
Accepted: 26 November 2024

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ABSTRACT

An 18-year-old male with no significant comorbidities presented with pain and swelling in multiple small and large joints of the upper and lower limbs, along with pain and redness in both eyes for the past two weeks. He also exhibited hyperpigmented rashes on the palms and soles and had bilateral inguinal lymphadenopathy. Investigations revealed elevated inflammatory markers and a positive ANA on indirect immunofluorescence. An ophthalmology evaluation indicated panuveitis. Subsequently, a VDRL test was performed, which returned reactive, and the TPHA was positive, while the ANA profile was negative. The patient was treated with benzathine penicillin, leading to significant improvement in his arthralgia and rashes.

Keywords: Panuveitis, Hyperpigmented rashes, Inguinal lymphadenopathy, TPHA, ANA IF

INTRODUCTION

Syphilis is a long-lasting infection caused by the bacterium Treponema pallidum, primarily transmitted through sexual contact. It presents with active disease episodes separated by periods without symptoms, making it a significant public health issue due to its varied clinical presentations and risk of severe complications. The infection progresses through several stages: the primary stage features a chancre and nearby swollen lymph nodes, while the secondary stage is characterized by widespread mucosal or skin lesions and lymphadenopathy. In its tertiary form, syphilis can cause serious damage to mucous membranes, bones, or internal organs, as well as late complications such as ascites.[1] Diagnosis typically involves initial tests like RPR (Rapid Plasma Reagin) and VDRL (Venereal Disease Research Laboratory), with any reactive results needing confirmation through treponemal tests like TPHA (Treponemal Pallidum Haemagglutination Test) or FTA-ABS (Fluorescent Treponemal Antibody Absorbed test). Treatment varies based on the stage, with Benzathine penicillin G (2.4 million units administered intramuscularly) being the standard, while doxycycline can be prescribed for patients with penicillin allergies.[1]

CASE REPORT

An 18-year-old male with no known comorbidities, working in Bandipur, presented with complaints of pain and swelling in multiple small and large joints of both the upper and lower limbs for the past two weeks. He also experienced pain and redness in both eyes, accompanied by blurring of vision during the same period. Additionally, he reported low back pain and enthesitis, with joint stiffness present throughout the day. The patient had a history of fever one month prior, which resolved after taking antipyretics. There were no significant weight loss, respiratory symptoms, or gastrointestinal issues reported.

Examination

The patient was conscious, oriented, and afebrile, with vital signs within normal limits. General examination revealed bilateral, non-tender inguinal lymphadenopathy. Examination of the musculoskeletal system showed

swelling, limited range of motion, and tenderness in the bilateral shoulders, elbows, metacarpophalangeal joints, and knees. Local examination of eye showed conjunctival congestion and chemosis. Additionally, the patient presented with hyperpigmented macular rashes on the trunk, soles, and palms.

Lab parameters

Laboratory results showed haemoglobin at 15.3 g/dl (normal range: 12-18 g/dl), total leukocyte count of 8,700 cells/mm³ (normal range: 4,000-11,000), and a platelet count of 305,000 cells/mm³ (normal range: 150,000-400,000). The erythrocyte sedimentation rate (ESR) was 2 mm/hr, and C-reactive protein (CRP) was elevated at 14.1 mg/dl (normal: <6 mg/dl).

Renal function tests indicated urea and creatinine levels of 19 mg/dl and 0.9 mg/dl, respectively, while sodium and potassium levels were 137 mEq/l and 4.2 mEq/l. Liver function tests revealed bilirubin at 0.41 mg/dL, SGOT at 21 U/l, SGPT at 39 U/l (normal: 0-40/15-40), ALP at 82 U/l, and total protein at 8.2 g/dl.

An autoimmune workup to rule out autoimmune etiology included rheumatoid factor 6.68 IU/mL, (normal: <20), anti-CCP <0.40 (normal: 0.100-5.000), normal range of C3 and C4 Complement, and a positive ANA IF (1:640). Tropical infection workup, including tests for dengue, leptospirosis, malaria, and Widal, returned negative. CECT of thorax and abdomen was performed to rule out sarcoidosis, revealing normal findings except for bilateral inguinal lymphadenopathy. A detailed ophthalmological evaluation due to redness and pain diagnosed the patient with panuveitis.

Considerations for the cause of panuveitis included tuberculosis, syphilis, Behçet's syndrome, and sarcoidosis. To rule out tuberculosis, a Mantoux test was conducted, which returned negative, and serum ACE levels for sarcoidosis were also within normal limits. A VDRL test was sent to exclude syphilis, which returned positive (1:32).

However, the patient denied any history of sexual contact. Tests for HBsAg, HCV, and HIV 1 & 2 were negative. Given the positive ANA-IF, an ANA profile was sent, which returned negative. In contrast, the TPHA test, a confirmatory test for syphilis, was reactive (1:2560).

Diagnosis

Secondary syphilis with Panuveitis.

Treatment

The patient was treated with Benzathine penicillin 2.4 million IU intramuscularly once a week for three weeks, along with topical steroids for panuveitis.

Follow up

The VDRL test became negative. The patient's joint pain and rashes completely resolved.

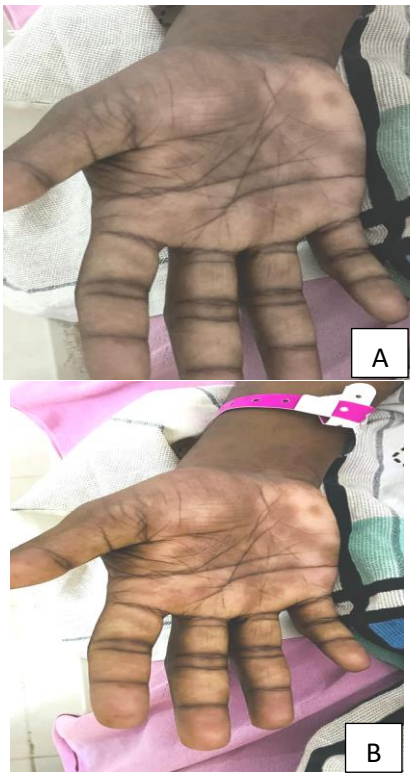

Figure 1 (A and B): Hyperpigmented rashes over the palm.

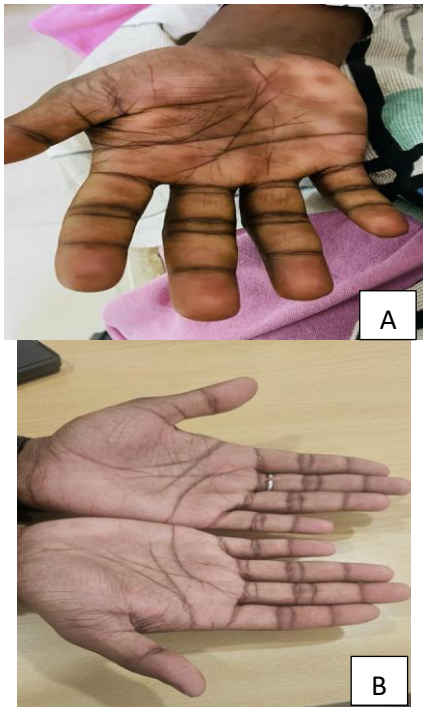

Figure 2 (A and B): Rashes before and after treatment.

DISCUSSION

Syphilis, caused by *Treponema pallidum* subsp. pallidum, has resurfaced as a pressing global health issue, particularly affecting regions such as Africa, Southeast Asia, Western Europe, Russia, and China. The rising incidence among men who have sex with men (MSM), especially those who are HIV-positive, underscores the urgent need for enhanced public health strategies.

Despite ongoing efforts to control the disease, increasing case numbers reveal significant gaps in prevention, education, and access to treatment. Ocular syphilis, which often presents as uveitis, highlights the systemic nature of the infection and emphasizes the importance of comprehensive eye care for at-risk populations. Healthcare professionals must remain vigilant in recognizing ocular syphilis, as early diagnosis and appropriate management are crucial to preventing severe long-term complications.[2]

The primary treatment for syphilis remains penicillin, particularly in its long-acting forms. Benzathine benzylpenicillin is the first-line therapy, but alternatives like procaine penicillin, doxycycline, or ceftriaxone are important for patients with specific contraindications. The variability in serological responses post-treatment poses challenges, as about 15-20% of patients may show persistent positive titres, complicating the evaluation of treatment success.

This necessitates ongoing monitoring and patient education regarding persistent serological positivity. Effective control strategies are crucial for reducing syphilis transmission, with primary prevention efforts focusing on promoting safe sex practices and condom use. Regular screening and testing for high-risk populations can facilitate early detection and treatment, while public health education plays a vital role in dispelling myths and increasing awareness of symptoms and risks.[3]

In low- and middle-income countries, syphilis management often begins during assessments for genital ulcers or through prenatal care, emphasizing the need to integrate syphilis care into broader sexual and reproductive health services.[4] An intriguing aspect of syphilis is its relationship with antinuclear antibody (ANA) status, as various infections, including Treponema pallidum, can lead to positive ANA results. This suggests that the immune response to infections may mimic autoimmune processes, complicating diagnoses. Further investigation into this relationship could enhance diagnostic accuracy for both infections and autoimmune diseases.[5]

CONCLUSION

In this case, syphilis acted as a significant mimicker, initially presenting as an autoimmune disease. The focus was primarily on an autoimmune workup, and the positive ANA result further misled the diagnosis. It was only after thoroughly evaluating the cause of panuveitis that syphilis emerged as a potential diagnosis. Additionally, the patient consistently denied any history of sexual contact, complicating the clinical picture. This case underscores the importance of considering syphilis in differential diagnoses, especially when patients present with atypical symptoms that could mimic autoimmune conditions. Healthcare providers must maintain a high index of suspicion for syphilis in cases of uveitis, regardless of the patient's reported sexual history. Timely diagnosis and treatment are crucial, as they can prevent long-term complications and improve patient outcomes.

The resurgence of syphilis presents significant public health challenges that require a multifaceted approach. Strengthening prevention efforts, improving access to treatment, and understanding the intricate relationships between infections and immune responses are essential steps in addressing this ongoing issue. Collaborative efforts among healthcare providers, public health officials, and communities can enhance strategies to combat syphilis and improve overall health outcomes.

This case illustrates the challenges of diagnosing secondary syphilis in a patient presenting with nonspecific systemic symptoms. The initial presentation of joint pain, rash, and eye involvement suggested an autoimmune or infectious etiology, emphasizing the need for a broad differential diagnosis. The confirmation of syphilis through positive VDRL and reactive TPPA tests highlights the necessity of laboratory testing to support clinical suspicion. Notably, the patient’s denial of sexual contact underscores the potential for underreporting or unawareness of exposure. This scenario emphasizes the importance of comprehensive history-taking, thorough physical examination, and appropriate laboratory testing to rule out other causes, such as autoimmune disorders (e.g., rheumatoid arthritis, lupus) and infectious diseases (e.g., tuberculosis, leptospirosis). The patient’s positive response to benzathine penicillin treatment demonstrates the effectiveness of prompt intervention in resolving symptoms and preventing long-term complications, including cardiovascular syphilis and neurosyphilis.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Harrison TR, editor. Harrison's Principles of Internal Medicine. 20th ed. New York: McGraw-Hill; 2023.
2. Furtado JM, Simões M, Vasconcelos-Santos D, Oliver GF, Tyagi M, Nascimento H, et al. Ocular syphilis. Survey of Ophthalmology. 2022;67(2):440-62.
3. Luo Y, Xie Y, Xiao Y. Laboratory diagnostic tools for syphilis: current status and future prospects. Frontiers in cellular and infection microbiology. 2021;10:574806.

4. Forrestel AK, Kovarik CL, Katz KA. Sexually acquired syphilis: Historical aspects, microbiology, epidemiology, and clinical manifestations. J American Acad Dermatol. 2020;82(1):1-4.

5. Im JH, Chung MH, Park YK, Kwon HY, Baek JH, Lee SY, et al. Antinuclear antibodies in infectious diseases. Infectious Diseases. 2020;52(3):177-85.

Cite this article as: Jalal F, Oomen R, Legha R, Rasheed AA, Natarajan AC. Great imitator-syphilis. Int J Res Med Sci 2024;12:4763-6.