Malignant Syphilis as Initial Manifestation of HIV: a Case Report

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BACKGROUND

Malignant syphilis (MS) is a rare form of secondary syphilis, more common among people living with HIV (PLWH). Diagnosis typically relies on Fischer's et al. criteria. This report describes MS as the initial indication of HIV infection.

CASE REPORT

In December 2023, a 38-year-old man visited the Emergency Department with a 30-day history of painful erythematous skin lesions with papules, nodules, and crusts secreting serous-haematic fluid (Figures 1-2).
These lesions began on the lower limbs and spread to the trunk and upper limbs, sparing the palms and soles. He also experienced fever, otalgia, facial erythema, and unilateral hearing loss. His medical history included allergies to paracetamol and aspirin. Blood tests showed pancytopenia, elevated liver enzymes, and increased C-reactive protein (CRP). He reported recent condomless sexual intercourse.
Initially treated for a suspected herpetic infection, the man was later evaluated by infectious disease specialists who recommended STI screening. Results showed positive HIV-1 serology with a viral load of 609,656 copies/ml, a CD4+ count of 107/mm³, and a CD4/CD8 ratio of 0.26. Serology for Treponema pallidum was also positive, with an RPR titre of 1:128 and TPPA of 1:40,960.
Antiretroviral therapy with BIC/TAF/FTC was promptly initiated, along with cotrimoxazole prophylaxis.
Dermatologists recommended a skin biopsy to rule out other diagnoses such as: disseminated VZV or HSV, disseminated syphilis, Monkeypox, Kaposi Sarcoma, Lymphomatoidpapulosis, Norwegian scabies,skin cancer. T.pallidum target sequences were detected through Polymerase Chain Reaction (PCR), with histopathological examination revealing diffuse histiocytic granulomatous infiltrate extending to the dermis and hypodermis, thus confirming the diagnosis of Malignant Syphilis.

Figure 1

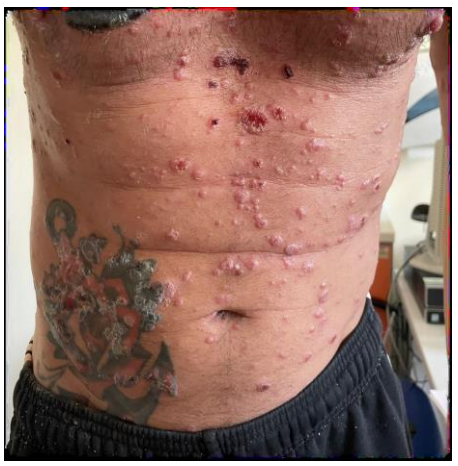

Figure 2

Since unilateral hearing impairment and otalgia were present, a lumbar puncture was performed to investigate central nervous system involvement. The cerebrospinal fluid (CSF) was clear, with 26 cells/mL (mainly lymphocytes), proteins 144 mg/dl. PCR and Immunoblot (IgM and IgG) were both positive for T.pallidum on CSF. The patient was treated with a 14-day course of intravenous ceftriaxone (2 g/day) preceded by a single dose of intravenous methylprednisolone to prevent a Jarisch-Herxheimer reaction (JHR). Significant analgesic therapy was necessary to control pain and was adjusted based on daily pain assessments.
By discharge, both lesions and pain had reduced, and at a 30-day follow-up, lesions appeared as violaceous areas with improved hypoacusis, though mild tinnitus persisted. After six months, RPR dropped to 1:2 and TPPA to 1:2560. Skin lesions appeared almost completely resolved (Figures 3-4).

Figure 3

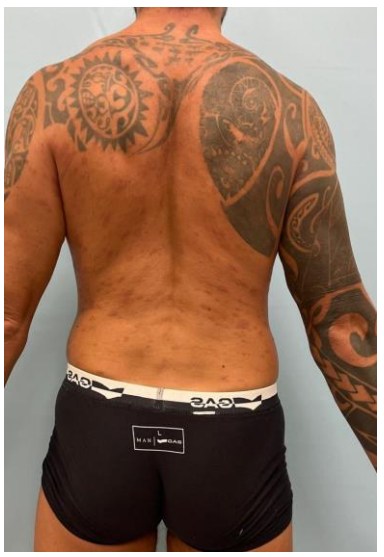

Figure 4

CONCLUSIONS

Consistent with literature, this case met the criteria for MS except for the absence of JHR, likely due to corticosteroid use. Fast diagnosis of MS is crucial to avoid complications like superinfection or permanent CNS damage. MS presentation should prompt HIV testing, as HIV increases the risk of developing MS by 60 times. Awareness of MS is essential due to its ability to mimic other conditions, particularly in PLWH with risk factors. Even though the pathogenesis mechanism is not yet fully understood, some authors believe that the immunosuppression due to HIV infection or other comorbidities could increase T.pallidum malignancy. In addition, the reduction of CD4+ T cells secondary to HIV might increase cytotoxic T cells activity on the skin. Although treatment recommendations for MS are still lacking, some authors suggest the same regimen used in case of late latent syphilis (3 consecutive weekly intramuscular injections of benzathine penicillin G, 2.4 million units/dose). Intravenous ceftriaxone 1-2 g/die for 10-14 days is a valid alternative, especially in case of CNS involvement.

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