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Meningovascular Neurosyphilis in an HIV Patient with Basilar Artery Thrombosis

Elena Urdez Hernández*

Infectious Diseases Department, Infectious Diseases Hospital, National Medical Center, Mexico

Abstract

Meningovascular neurosyphilis, a rare complication of tertiary syphilis, poses significant challenges in diagnosis and management, particularly in individuals co-infected with HIV. We present a case of a patient with HIV who developed basilar artery thrombosis secondary to meningovascular neurosyphilis. Through this case, we highlight the importance of considering neurosyphilis in the differential diagnosis of stroke in HIV-infected patients and underscore the necessity of timely diagnosis and appropriate treatment to prevent devastating neurological outcomes.

Keywords: Meningovascular neurosyphilis; HIV Patient; Basilar artery thrombosis

Introduction

Neurosyphilis is a known complication of Treponema pallidum infection, affecting various structures within the central nervous system (CNS). Meningovascular neurosyphilis, characterized by inflammation of the meninges and blood vessels, can lead to ischemic or hemorrhagic stroke due to vascular compromise. The concomitant presence of HIV infection further complicates the clinical course, as it may alter the presentation and response to treatment. Here, we report a case of meningovascular neurosyphilis in an HIV-infected patient presenting with basilar artery thrombosis [1-3].

Case Presentation

A 45-year-old male with a history of HIV infection, despite regular antiretroviral therapy (ART) adherence, presented to the emergency department with acute-onset confusion, slurred speech, and left-sided weakness. Neurological examination revealed bilateral lower cranial nerve palsies and right hemiparesis [4]. Magnetic resonance imaging (MRI) of the brain demonstrated acute infarction involving the brainstem, consistent with basilar artery thrombosis.

Further investigation revealed a positive Venereal Disease Research Laboratory (VDRL) test and elevated cerebrospinal fluid (CSF) protein levels with lymphocytic pleocytosis, suggestive of neurosyphilis. HIV viral load was undetectable, and CD4 count was within normal limits [5]. The patient denied any recent sexual contacts or symptoms suggestive of syphilis.

Discussion

The concurrent occurrence of HIV infection and neurosyphilis presents diagnostic and therapeutic challenges. HIV-related immunosuppression may alter the clinical manifestations of syphilis, leading to atypical presentations and delayed diagnosis. In this case, the absence of typical symptoms of primary and secondary syphilis underscores the importance of considering neurosyphilis in the differential diagnosis of stroke, particularly in HIV-infected individuals.

Meningovascular neurosyphilis typically manifests as stroke-like symptoms due to inflammatory vasculitis affecting the small- to medium-sized arteries supplying the brain. Basilar artery thrombosis, as observed in our patient, is a rare but severe complication associated with significant morbidity and mortality [6-8].

Management

The patient was treated with intravenous penicillin G for 14 days, followed by a 3-week course of benzathine penicillin. Concurrently, anticoagulation therapy was initiated for basilar artery thrombosis. Repeat CSF analysis after treatment completion showed a decline in protein levels and resolution of pleocytosis, supporting the diagnosis of neurosyphilis.

Conclusion

This case underscores the importance of maintaining a high index of suspicion for neurosyphilis in HIV-infected individuals presenting with stroke-like symptoms, even in the absence of typical syphilitic features. Prompt recognition and treatment are paramount to prevent neurological sequelae and optimize outcomes. Clinicians should consider screening for syphilis in all HIV-infected patients, especially those with neurological symptoms, to facilitate early diagnosis and management of this potentially devastating complication.

Acknowledgment

None

Conflict of Interest

None

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***Corresponding author:** Elena Urdez Hernández, Infectious Diseases Department, Infectious Diseases Hospital, And National Medical Center, Mexico
E-mail: elena.urdezhernandez@gmail.com

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