Schizophrenia-Like Psychosis With Recent Syphilis Diagnosis: When the Patient Refuses Lumbar Puncture

Violeta Nogueira, MD[a,*]; Maria Conde Moreno, MD[a]; and Inês Coelho, MD[a]

Neurosyphilis is the infection of the central nervous system by *Treponema pallidum*, and it can occur at any stage of the syphilis infection.[1] Before penicillin, about 23%–35% of syphilis patients would have neuropsychiatric manifestations. Now, neurosyphilis affects one-fourth of untreated patients, and it is far more common with HIV coinfection.[2]

Despite the reduction in neurosyphilis incidence, patients are sometimes misdiagnosed with psychiatric conditions, as psychiatric symptoms can be the sole presentation. There is also evidence that neurosyphilis can alter the course of preexisting psychiatric illness.[3]

Diagnosis of neurosyphilis relies on indirect measures: elevated cerebrospinal fluid (CSF) white blood cell count or protein concentration or reactivity of the CSF VDRL (venereal disease research laboratory) test. A reactive CSF VDRL test is diagnostic of neurosyphilis.[4]

Parenteral penicillin treats neurosyphilis and is recommended as first-line treatment.[5] For asymptomatic patients, assessment of the efficacy of neurosyphilis treatment relies on normalization of CSF measures. Furthermore, normalization of serum rapid plasma reagin titer correctly predicts normalization of CSF and clinical measures after neurosyphilis treatment.[6]

Case Report

A 48-year-old woman diagnosed with schizoaffective disorder for almost 20 years was hospitalized in early 2021 in our ward with behavior abnormalities. She had a history of multiple drug abuse, including heroin and cocaine, and she would occasionally prostitute. She had been hospitalized for psychotic episodes approximately 15 times, with nonadherence to any therapeutic plan. She had a secondary syphilis diagnosis from October 2020 made in the emergency department when she presented with a cutaneous rash and condylomata lata vulvar and perianal lesions. She received a single intramuscular injection of long-acting benzathine penicillin G 2.4 million units. Follow-up serology in November had shown treatment response.

Before admission, she had been wandering in the streets causing disturbances. At admission, assessment showed she was alert, disorientated to time and space, and noncooperative. Her mood was irritable, and her speech was disorganized with the presence of thought disturbances—persecutory and grandiose delusions. The neurologic examination was unremarkable. Extensive evaluation was performed and revealed a positive result for benzodiazepines, and her VDRL titers were 1/2. Despite apparent response to treatment, given the suggestive symptoms and a positive VDRL, a lumbar puncture was suggested to exclude neurosyphilis, which the patient refused. During hospitalization, a titrated dose of antipsychotic was prescribed with improvement of the patient's psychopathologic state and resolution of psychotic symptoms. She was discharged after 3 weeks with the following therapeutic regimen: haloperidol decanoate 100 mg intramuscular formulation, monthly administered and olanzapine 10 mg/d. She was referred to hospital psychiatric and infectiology appointments and to a community mental health team, who would administer the long-acting injectable at the social housing wherein she resided and monitor her status.

Discussion

The treponema bacteria invades the nervous system within days, from the meninges to the encephalon. Our patient had a history of psychotic episodes, substance use, and previous admissions to psychiatric wards. Secondary syphilis was diagnosed the year before, and she underwent appropriate treatment. She was HIV negative. VDRL titers had previously declined 2-fold between November and December 2020 (1/32 to 1/2); hence, penicillin was not administered again. She had no signs of meningitis or encephalitis. She refused a lumbar puncture. With no disturbing neurologic symptoms, patients' refusal of this procedure may be as high as around 38%.[7]

Neuropsychiatric symptoms usually appear within decades after primary infection, but there are recent reports of cases in the first 2 years. Given the recent infection timing and VDRL drop with penicillin, neurosyphilis was unlikely. She responded to the antipsychotic.

The following should be considered in patients with psychiatric symptoms and a recent diagnosis of syphilis: (1) history of psychiatric symptoms, (2) onset/stage of syphilis, (3) if treatment for syphilis occurred and the response, (4) HIV coinfection, and (5) lumbar puncture when indicated.

[a]Centro Hospitalar Psiquiátrico de Lisboa, Lisbon, Portugal

*Corresponding author: Violeta Nogueira, MD, Centro Hospitalar Psiquiátrico de Lisboa, Avenida do Brasil, 53, Lisbon, 1749-002, Portugal (violeta.nogueira@campus.ul.pt).

Prim Care Companion CNS Disord 2022;24(5):21cr03053

To cite: Nogueira V, Moreno MC, Coelho I. Schizophrenia-like psychosis with recent syphilis diagnosis: when the patient refuses lumbar puncture. *Prim Care Companion CNS Disord.* 2022;24(5):21cr03053.

To share: https://doi.org/10.4088/PCC.21cr03053

Published online: September 22, 2022.

Relevant financial relationships: None.

Funding/support: None.

Patient consent: Consent was received from the patient to publish the case report, and information has been de-identified to protect anonymity.

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