

## Psychiatric Manifestation of Neurosyphilis

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### Abstract

**Introduction:** Neurosyphilis should be considered in the differential diagnosis for those who manifest new psychiatric symptoms because it may not present with classical features. Though it has been considered a rare disease since the advent of penicillin, with pandemic of HIV infection there has been worldwide resurgence of syphilis. We present a case of Neurosyphilis who presented with overwhelming psychiatric manifestations misleading the diagnosis.

**Material & Method:** This is a case report of a 40 year old man who was admitted to the hospital with complaints of personality change prior to two months of admission. The report is descriptive of the clinical condition of the subject while he was hospitalized.

**Case Report/Results:** The subject presented with signs of sleeplessness, delusions, and auditory hallucinations, irritability and restlessness, high grade fever, intermittent clouding of consciousness and loss of memory during the hospitalization period.

**Conclusions:** Based on the medical investigations the patient was diagnosed with neurosyphilis.

**Keywords:** Neurosyphilis, syphilis

### INTRODUCTION

Syphilis is an infection caused by *Treponema Pallidum*. Its primary and secondary infection if left untreated resolve on their own and enters latent period where infection is present, but clinical symptoms do not manifest. After months or years approximately one third of patients with untreated latent syphilis develop tertiary syphilis affecting the brain leading to Neurosyphilis.

Clinical Neurosyphilis can be divided into 4 types; Syphilitic meningitis characterized by direct meningeal irritation, rarely has focal findings; Meningovascular syphilis characterized by proliferative endoarteritis with focal findings; Parenchymatous syphilis including general paresis and tabes dorsalis which starts 10-20 years after infection and is characterized by neuronal destruction, demyelination and gliosis. Lastly gummatous neurosyphilis where mass effect causes neurological symptoms.

It is general paresis which may present with symptoms of virtually any psychiatric disorder. Neurosyphilis remains a differential diagnosis for a wide variety of psychiatric syndromes including dementia, delirium, personality disorder, mood disorder and psychosis. A century ago patients with general paresis constituted high proportion of mental hospital admissions and accounted for an appreciable part of the chronic population of such institutions. With the identification in the early twentieth century of the causative agent and the development of

effective methods of treating syphilis this condition has become relatively rare. However in certain areas of the world, still partial but incomplete suppression of infection has ultimately given rise to late manifestations of infection as Neurosyphilis. In addition along with the advent of Human immunovirus infection (HIV), there has been a worldwide resurgence of syphilis.

Therefore in view of the problem we here report a case of Neurosyphilis who was initially diagnosed as a case of mania.

### CASE REPORT

Mr. A, a 40 year old married, unemployed man was brought to the hospital by his wife because of a personality change during the previous 2 months. Mr. A had not been sleeping well, exhibited grandiosity, and had become increasingly talkative, irritable and restless, which had been worsening from last 1 week. He had no history of psychiatric illness in past and no family history of mental illness. He had history of having unsafe sex with multiple commercial sex workers.

His physical examination including ocular examination was unremarkable. An initial mental status examination revealed increased psychomotor activity, pressured speech, elated mood, delusion of grandiosity, he denied having

auditory hallucinations and was oriented to time, place and person. His immediate, recent, remote memory as well as attention was good although insight and judgment were poor. Routine biochemical and hematology profiles were normal during admission. Mr. A was diagnosed as having a manic episode. From 2<sup>nd</sup> day of admission he developed high grade fever, intermittent in nature associated with intermittent clouding of consciousness and loss of memory, for which additional investigations were performed. Mr. A's laboratory test revealed serum VDRL reactive 1:16, positive TPHA. His lumbar puncture revealed elevated protein, 15 leucocytes per milliliters and was positive for TPHA and VDRL. Test for HIV antibodies was negative and Brain CT revealed no abnormality. Based on these findings, the diagnosis of neurosyphilis was made.

We treated Mr. A with penicillin and Haloperidol, his mental state improved rapidly and gradually the affective symptoms improved. He was discharged in partial remission after 45 days. Follow up at 2 weeks and 1 month of his discharge his mental status had improved and he had returned to baseline level of functioning.

#### DISCUSSION

Syphilis, 'the great imitator' used to be a part of standard differential diagnosis of neuropsychiatric diseases prior to antibiotic therapy<sup>1,2</sup>. Although the incidence of tertiary syphilis has declined markedly since the advent of penicillin<sup>3</sup>, it has not been eliminated as a health problem. HIV, inadequate antibiotic treatment for syphilis, and the rising incidence of early syphilis among the young and urban poor, have increased the frequency of subtle, atypical and often mono-symptomatic presentations of neurosyphilis. Case reports and larger surveys have still documented its persistence in both classic and atypical forms.

Studies show that neurosyphilis developing 5-15 years after initial infection may present as any psychiatric disorder<sup>4,5</sup>. A significant number of patients with neurosyphilis present with dementia<sup>5,6</sup>. Patients might even present as mood disorders<sup>5,7</sup>. Neurosyphilis has been reported in association with schizophrenia like psychosis and there are reports where patient have been misdiagnosed as somatoform disorders<sup>5,8,9</sup>. Neurosyphilis has also been misdiagnosed as Korsakoff psychosis and patients may also present with altered personality characterized by antisocial, explosive, hostile behavior, emotional lability, anhedonia, social withdrawal, histrionicity, and hypersexuality<sup>2,5,10</sup>.

The present case illustrate the example of neurosyphilis cases presenting exclusively with psychiatric manifestations leading to direct admission in psychiatric unit rather than medical or neurology unit. In addition this case emphasizes the fact that despite a dramatic decline in the incidence of neurosyphilis since 20<sup>th</sup> century, new cases are still occurring. Thus psychiatrists, needs to be aware that neurosyphilis is still with us and its clinical presentation might create a diagnostic dilemma.

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