

# Acute psychotic presentation in syphilis- the great imitator is back

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## INTRODUCTION

Neurosyphilis is now an uncommon diagnosis since the introduction of antibiotic therapy. This can lead to uncertainty around managing these patients. This case discusses a Human Immunodeficiency Virus (HIV) positive patient who presented to psychiatric services with psychosis, and was subsequently diagnosed with neurosyphilis following lumbar puncture. There was a marked improvement after treatment with antibiotics and antipsychotic medication.

We discuss the challenges in management of psychosis in neurosyphilis due to the lack of guidelines, and the importance of psychiatrists considering serological testing for syphilis in such patients, and including neurosyphilis in their differential diagnosis.

## CASE PRESENTATION

A gentleman in his 50's with no past psychiatric history was referred to mental health services and subsequently detained under the Mental Health Act. He presented as thought disordered, with other symptoms including grandiose and persecutory delusions, delusions of reference, passivity, and hallucinations in visual, auditory and tactile modalities. The patient had been diagnosed with HIV in 2014, and was started on antiretroviral medication at diagnosis. On neurological examination there was mild paresis of the right lateral rectus muscle, and nystagmus on horizontal left gaze. Addenbrooke's Cognitive Examination-III score was normal.

**INVESTIGATIONS AND DIAGNOSIS:** Routine blood investigations, MRI and CT brain imaging were normal. Serological and cerebrospinal fluid testing were positive for syphilis, therefore the conclusive diagnosis was neurosyphilis. The ICD code F06.2 organic delusional (schizophrenia-like) disorder was given.

Syphilis serology was positive 8 months prior to admission, but he had not received antibiotic treatment. His HIV-1 viral load had also been high 3 months prior to the admission which was felt to be secondary to non-compliance with antiretroviral medication. Lumbar puncture results were consistent with a diagnosis of neurosyphilis, due to raised cerebrospinal fluid protein and TPPA titre of 1:320. CSF viral PCR and AFB culture were negative. HIV related encephalopathy had also been considered as a diagnosis, but this was later dismissed due to a low cerebrospinal fluid HIV viral load.

**TREATMENT:** Treatment was with IM procaine benzylpenicillin 2,400,000 units daily and oral probenecid 500 milligrams QDS for 14 days on advice of the HIV team. Olanzapine was also started and titrated up to 15mg daily. There was a significant improvement in the patients' psychotic symptoms following treatment, with resolution of his delusional beliefs, although there was some residual paranoia. He had not developed full insight at the time of discharge. He was discharged on olanzapine 15mg daily to be followed up by the Early Intervention Service. The HIV team will perform a repeat lumbar puncture in 3 months' time.

## DISCUSSION

Syphilis is a common sexually transmitted infection, with approximately 6 million new cases worldwide in 2016 [1]. In London syphilis diagnoses have increased by 44% since 2014, and men who have sex with men (MSM) accounted for 89% of those diagnosed with syphilis [2].

Approximately 15%-40% of patients with untreated syphilis are thought to progress to tertiary syphilis including neurosyphilis [3], often years after initial infection if untreated. In HIV co-infection there can be rapid progression to the late stages of syphilis, particularly neurosyphilis, and atypical presentations of neurosyphilis [3].

As per the Centre for Disease Control (CDC) 2015 guidelines [4]; any HIV-infected patient who is diagnosed with syphilis with clinical signs suggesting neurological involvement, or those diagnosed with syphilis who do not have an appropriate clinical or serological response to initial therapy should have a lumbar puncture to assess for neurosyphilis. The fact that this patient had a high HIV viral load 3 months prior to admission is clearly significant in the quick progression of the disease.

The favoured regime for neurosyphilis in the CDC 2015 guidelines is IV aqueous crystalline penicillin. The patient received the recommended alternative regimen of IM procaine benzylpenicillin and oral probenecid [4,5], as IV treatment would not have been practical to administer in a psychiatric hospital.

Psychiatric manifestations of neurosyphilis can be varied, it is often known as the great imitator. Symptoms could include cognitive impairment, paranoia, hallucinations, mania, grandiose delusions, personality disorders or delirium.

In terms of treating the psychiatric complications, this is more complex. There are no guidelines in the UK available for the use of antipsychotics for either the choice of antipsychotic, or how long to continue the antipsychotic following remission of symptoms in either the National Institution for Clinical Evidence (NICE) guidelines, or The Maudsley Prescribing Guidelines in Psychiatry.

Although there are no current guidelines, a case series from 2007 [6] supports the concurrent use of psychotropic medication at the lowest effective dose, alongside antibiotic therapy. The case series also supports attempts to reduce or withdraw therapy when possible.

There is mention in case reports of antipsychotic agents which have shown clinical benefit in treating psychiatric symptoms of neurosyphilis, which include risperidone, haloperidol, olanzapine and quetiapine, as well as using sodium valproate in mania [6]. In any case, it is difficult to say whether remission of symptoms is caused by the antibiotics, antipsychotics, or a combination of both [6-9].

## CONCLUSIONS

- It is important to consider that in patients with syphilis who are also HIV positive, it may lead to much quicker progression to neurosyphilis, especially if non-compliant with antiretroviral medication.
- Psychiatrists should discuss sexual practice with our patients, including education on safe sexual practices and to refer for testing for sexually transmitted diseases when indicated, particularly in men who have sex with men (MSM).
- Psychiatrists should always include neurosyphilis in the differential diagnosis for psychosis, and serological tests for syphilis should be considered for all patients admitted to psychiatric inpatient wards.
- There is a clear need for guidelines for the treatment of psychiatric manifestations of neurosyphilis as there are currently no randomised control trials. At present clinical judgement should be used when prescribing psychotropic medication; patients should be treated symptomatically concurrently with antibiotic therapy.

## REFERENCES

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