Early onset Syphilitic Meningoencephalitis presenting as Abnormal Behaviour in a case of HIV Infection

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Introduction

Early neurosyphilis, appearing within 2 years of infection with *Treponema pallidum* was uncommon in the prepenicillin era and usually occurred after inadequate therapy. This complication was exceedingly rare in the first three decades of penicillin therapy. In contrast, after HIV epidemic a number of cases of asymptomatic neurosyphilis, or syphilitic meningitis, cranial nerve abnormalities (predominantly in cranial nerves II and VIII), or cerebrovascular accidents, singly or together have been reported [1-3]. In view of its diverse manifestations in the presence of HIV infection syphilitic infection should be considered in the differential diagnosis of any neurological, psychiatric, or ophthalmological disease. We describe here a case, which presented with symptoms of meningeal irritation and abnormal behaviour. He was found to be having syphilitic meningoencephalitis with HIV infection.

Case Report

A 36 year old serving soldier, while on leave, was admitted to Kottayam Medical College Hospital on 16th September 2000 with headache, low grade fever, vertigo and non-projectile vomiting. On investigation, CT scan was normal, cerebro spinal fluid (CSF) examination showed 40 cells/mm³, predominantly lymphocytes, proteins 60 mg/100ml, sugar 52 mg/100 ml and anti TB IgM was found to be negative. Diagnosed and managed as a case of aseptic meningitis till 25th September without much relief, he was transferred to a service hospital in Kochi at his own request. In transit he developed aggressive and abnormal behaviour. Thereafter he lost consciousness, which was regained the same night. Repeat CSF examination showed further increase in the cell count to 420 cells/mm³, again predominantly lymphocytes and with increased protein levels of 198mg/100ml. CSF tested again, was negative for anti TB IgM and cryptococcal antigen. Patient improved with Inj cefotaxime 1 gm bid for 5 days. On 4th October he tested HIV positive by ELISA and was transferred to our hospital for confirmation and further management.

Patient gave history of unprotected sexual exposure with commercial sex workers (CSW) in 1994 and in February 97.

He developed a painless ulcer over shaft of penis followed by painful swelling in the left inguinal region in the first week of March 98. The bubo ruptured two weeks later. He improved following some treatment by a private practitioner. In the last week of March 98, he was admitted and treated for HBsAg positive viral hepatitis.

Patient was a married individual with a 13 year old son and a healthy wife, who did not have any bad obstetric history. Examination revealed bilateral, discrete, firm and nontender axillary lymphadenopathy, mild nontender hepatosplenomegaly and tachycardia of 114/min. Central nervous system (CNS) examination was essentially normal and there was no neck rigidity. Dermatovenereological examination revealed large atrophic scars over dorsal aspect of shaft of penis and over left inguinal fold.

Repeat CSF examination again showed increased cell count and protein with normal sugar levels. It stained negative for *Cryptococcus*. Blood VDRL was found to be reactor 1:16 dilution, with positive TPHA test. HIV infection was confirmed by Western Blot test. CSF examination was repeated on dermatologist's request to look for CSF VDRL, which was found to be reactor, with positive TPHA test. Patient was diagnosed as a case of syphilitic meningoencephalitis with HIV infection and treated with crystalline penicillin, 3 MU 4 hourly IV for 10 days, followed by benzathine penicillin 2.4 MU IM weekly for three weeks.

Discussion

This sexually active promiscuous individual, after a few weeks of extramarital sexual exposure with a CSW, developed genital ulcer disease with mixed infection i.e. chancroidal ulcers along with *T pallidum* infection in March 1998. He was possibly incompletely treated and improperly investigated at that time. Simultaneously he must have also acquired HIV and HBV infection, both of which were confirmed serologically later. Syphilitic infection progressed from the primary stage to meningitic syphilis in just one year and six months in the presence of concomitant HIV infection and he presented with clinical and laboratory evidence of meningoencephalitis. An unusual progression and aggressiveness of neurosyphilis in AIDS has been suggested [3,4], as was

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seen in our case. The subsequent development of cell mediated immunity to the presence of *T pallidum* after the early infection leads to a stage of latency in syphilis. In the presence of HIV infection there is depression of this cell mediated immunity which leads to unhindered proliferation of the organism. This can cause early onset of neurosyphilis in cases with concomitant HIV infection. Thus in recent times close relationship has been seen between HIV infection and neurosyphilis. In one of the studies 44% of diagnosed cases of neurosyphilis had concomitant AIDS [2]. For diagnosis of neurosyphilis CSF VDRL is the most sensitive test, as the specific tests of syphilis being very sensitive, may be false positive in the CSF due to diffusion of the antibodies from blood [5].

Our index patient improved symptomatically with 5 days of treatment with injection cefotaxime, as cephalosporins are also effective in syphilis [5]. However, the treatment given was incomplete and not the recommended treatment for neurosyphilis [6]. This could have led to relapse or progression of the disease; hence he had to be given the recommended penicillin therapy.

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A guy walks into a bar with his pet monkey.

He orders a drink and while he's drinking, the monkey jumps all around the place. The monkey grabs some olives off the bar and eats them, then grabs some sliced limes and eats them, then jumps onto the pool table, grabs one of the billiard balls, sticks it in his mouth, and to everyone's amazement, somehow swallows it whole.

The bartender screams at the guy, "Did you see what your monkey just did?"

The guy says "No, what?"

"He just ate the cue ball off my pool table!"

"Yeah, that doesn't surprise me," replied the guy. "He eats everything in sight. Sorry. I'll pay for the cue ball and the rest of the stuff."

The customer finishes his drink, pays his bill, pays for everything the monkey ate, then leaves.

Two weeks later he's in the bar again, and has his monkey with him. He orders a drink and the monkey starts running around the bar again. While the man is finishing his drink, the monkey finds a maraschino cherry on the bar. He grabs it, sticks it up his butt, pulls it out, and eats it.

The bartender is disgusted. "Did you see what your monkey did just now?" he asks.

"No, what?" replies the guy.

"Well," said the bartender, "He stuck a maraschino cherry up his butt, pulled it out, and ate it!"

"Yeah, that doesn't surprise me one bit," replied the guy. "Ever since that cue ball incident, he measures everything first."