Acute HIV infection presenting as encephalitis

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Background

A 37 year old healthcare worker presented with general malaise, lower back pain, and headaches ongoing for 2 weeks.

This was in the context of a recent Emergency Department presentation with subjective symptoms of urinary tract infection, for which she received antibiotics 1 week earlier and was discharged.

There was no significant background history and no regular medications.

No history of recent travel, zoonotic exposure, or needle stick injury. The patient is in a closed monogamous relationship with her husband with whom she was sexually active and trying to conceive with.

During her inpatient stay she developed confusion, acute behavioural disturbance and seizure and required sedation, intubation and transfer to intensive care.

Results

Virological sampling was reported six days after admission.

Testing for hepatitis A,B,C was all negative.

The Abbott Architect® HIV serology was positive and subsequent VIDAS® testing was p24 antigen positive, and HIV 1/2 antibody negative

Subsequent confirmatory testing for p24 antigen was also positive. Confirmatory testing on the INNOLIA® platform did subsequently show a band for p24 antigen antibody.

HIV serum viral load was 526,000 copies/ml^3 and CSF viral load was 32,136 copies/ml^3 prior to treatment.

Management

The patient was commenced on dolutegravir(DTG) 50mg twice daily, zodivudine(AZT) 300mg twice daily, tenofovir disoproxil fumarate(TDF) 245mg and emtricitabine(FTC) 200mg daily.

After 6 days of antiretroviral therapy the patient was weaned off sedation completely and had a rapid improvement. ART was further rationalised to TDF/FTC/DTG once stepped-down to the general ward.

Investigation

Initial results at the time of admission showed deranged liver function and raised C-reactive protein.

Microbiological sampling of urine showed no growth and no leukocytes. Blood cultures were negative.

A broad panel of testing included leptospirosis, malaria, HIV, Hepatitis A, Hepatitis B, hepatitis C, HIV, and autoimmune encephalitis panel on serum and CS.

Neuroimaging included and non-contrast CT brain and MRI brain both of which did not demonstrate any abnormality.

A lumbar puncture was done which showed cerebrospinal fluid white cell count of 28 (98% lymphocytes), glucose 4.5, and protein of 2850mg/L.

Conclusion

In the context of behaviour change, seizure and confirmation of HIV on testing a diagnosis of acute HIV with encephalitis was made.

HIV was further down the differential diagnostic list given the atypical presentation and emergence of diagnostics that are not typical of viral meningoencephalitis including high protein.

Casting a wide net to include HIV diagnostics in complex neurological cases of unclear aetiology is an important consideration.