Reversible Dementia with Myoclonus Due to Concurrent HSV-2 and Syphilis Central Nervous System Infection in an Immunocompetent Man

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Objective

To describe an unusual case of progressive but reversible dementia, dysarthria and myoclonus due to concurrent HSV-2 and syphilis central nervous system (CNS) infection in an immunocompetent man.

Background

Common conditions presenting with dementia and myoclonus include Creutzfeld Jakob disease, Corticobasal Syndrome, Lewy Body dementia, Alzheimer's disease and Hashimoto's encephalitis.[1,2] Syphilis and HIV-1 infection may also cause dementia; however, but not typically dementia with myoclonus.

Results

A 40-year-old man presented for evaluation of a 2-months of progressive dysarthria and myoclonus in the context of one year progressive dementia. Examination was remarkable for Montreal Cognitive Assessment (MoCA) of 13/30, speech latency, dysarthria and myoclonus.

A comprehensive metabolic evaluation, inflammatory markers, and HIV-1 serology were unrevealing except for a positive RPR, confirmed by FTA-ABS. An enhanced brain MRI demonstrated moderate generalized volume loss (Figure 1).

Initial cerebrospinal fluid (CSF) analysis demonstrated a lymphocytic pleocytosis, negative CSF VDRL and positive HSV-2 PCR, but repeated CSF results revealed positive VDRL and FTA-ABS. Other infectious and inflammatory CSF studies were unremarkable. An electroencephalogram showed focal slowing on the left temporal region.

The patient was treated with intravenous acyclovir for 21 days and penicillin G for 14 days. After therapy repeat CSF HSV-2 PCR was negative (Table 1).

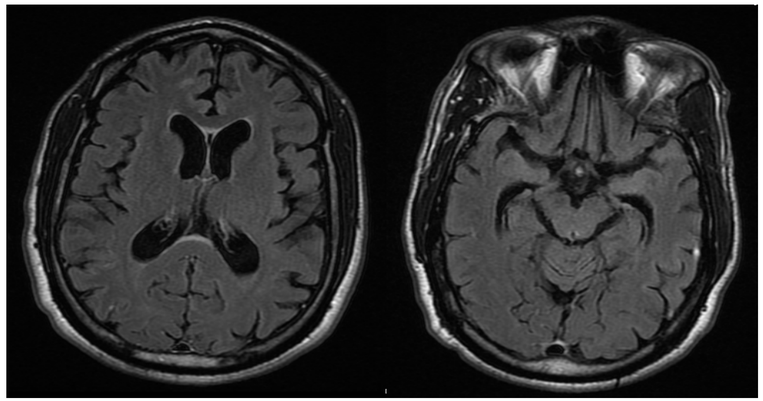

Figure 1: Brain FLAIR MR Images demonstrating non concordant age atrophy.

Table 1. CSF findings.

	11/11	11/15	11/28
RBC	46	775	1650
WBC	55	31	11
Neutrophil	1%	3%	2%
Lymphocyte	87%	92%	93%
Monocyte	12%	5%	5%
Glucose, CSF	49	58	54
T Protein, CSF	60.5	56.5	46.0
VDRL, CSF	NR	16	16
IgG, CSF			14.70

Myoclonus, dysarthria, and cognitive function all improved with the MoCA score increasing to 21/30 at discharge.

Conclusions

A dementia syndrome may be fully or partially reversible if it is due to underlying treatable condition.[3]

Some of the treatable etiologies include NPH, vitamin B12 deficiency, hypothyroidism, structural lesions, inflammatory diseases and CNS infections.[3]

Infectious etiologies include Lyme and Whipple disease and fungal infections.[4]

Tuberculosis and syphilis are important causes of chronic meningitis particularly in immunocompromised patients, such as those infected with HIV-1.[5]

CNS co-infection of HSV-2 and syphilis is rare.[6]

HSV-2 is frequently associated with self-limited recurrent meningitis rather than chronic meningitis, with the majority of HSV-2 meningitis cases following a benign course.[7]

Here we report a reversible infectious cause of dementia, dysarthria and myoclonus due to chronic meningitis resulting from co-infection with HSV-2 and *T. pallidum* in an immunocompetent patient.

References

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