Progressive neurological deficit in an HIV patient

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DESCRIPTION

A 57-year-old man with a history of HIV presented to the hospital with generalised weakness, slurred speech and an unsteady gait. CT scan showed hypodensity in the left cerebellar hemisphere and middle cerebellar peduncle and an MRI of the brain was consistent with the left middle peduncle subacute ischaemic infarct. He was started on aspirin 325 mg daily and transferred to the skilled nursing facility for physical therapy.

Two months after the initial event, he was readmitted for worsening slurred speech, unsteady gait, dysphagia and left-sided facial droop. A repeat MRI did not show any new cerebrovascular accident while an MR angiogram of the brain showed no evidence of stenosis or aneurysmal dilation; however, the patient's condition continued to deteriorate.

Three weeks later, he was much worse in terms of his dysarthria as his speech was incomprehensible, his dysphagia prompted percutaneous endoscopic gastrostomy tube placement and became bed ridden. Repeat MRI showed pure posterior fossa changes with bilateral T2 fluid attenuated inversion recovery prolongation of signal within the pons, bilateral middle cerebellar peduncles and medulla without significant mass effect. The lesion was highly suspicious of progressive multifocal leucoencephalopathy (PML) considering his CD4 count and viral load were 8 and 2267, respectively. He was started on highly active antiretroviral therapy, as he was initially non-compliant owing to dysphagia. The patient agreed to a lumbar puncture and the cerebrospinal fluid sample showed the presence of polyoma/JC virus. The patient expired a month after diagnosis.

Figure 1 Increased T2 flair in posterior fossa without mass effect.

Figure 2 Increased of the T2 flair in posterior fossa without mass effect.

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PML is an opportunistic infection seen in patients on immunosuppressive therapy, with malignancies or HIV/AIDs. It is fatal with no cure other than improving CD4 count in patients with HIV/AIDs and removal of the immunosuppressive agent.^{1 2} Pure posterior fossa involvement is rare as in our case given limited case reports in the literature.^{3–7} PML mimics brain tumours, stroke, HIV encephalopathy and primary central nervous system lymphoma and these can be differentiated both clinically and by imaging. Prompt diagnosis is essential to avoid PML morbidity and mortality.

Learning points

- ▶ Progressive multifocal leucoencephalopathy (PML) is a severe neurological disease affecting immune-compromised patients requiring prompt diagnosis.
- ▶ PML should be considered as a differential diagnosis in patients with HIV/AIDs with low CD4 counts who present with rapidly progressing neurological deficits.
- ▶ Brain scan (CT or MRI) in patients with PML rarely shows substantial mass effect.⁸

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