

# HANDS ON HIV CARE – A CASE OF SEVERE HIV-ASSOCIATED NEUROCOGNITIVE DISORDER AND POLYNEUROPATHY IN A WOMAN WITH ADVANCED HIV

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A 48-year-old female with newly diagnosed advanced HIV (baseline CD4+ T-cell count <35 cells/ $\mu$ L (6%) and HIV viral load 114,699 copies/mL) was bed-bound with severe fatigue, 6kg weight loss, bilateral proximal lower limb weakness, low mood, cough and cognitive decline. She had urinary retention requiring catheterisation and intermittent confusion and agitation. Functional impairment contributed to job termination and inability to live independently. She also had depression, alcohol dependence, and hepatic steatosis.

Magnetic resonance imaging (MRI) demonstrated widespread confluent T2/FLAIR signal increase within white matter from the periventricular regions through to the corona radiata and subcortical regions and T2 enhancement bilaterally along most of the spinal cord dorsal columns. Nerve conduction studies (NCS) showed superficial peroneal nerve amplitude and tibial nerve velocity reduction and electromyography was normal. These findings were attributed to HIV-associated neurocognitive disorder (HAND) and an HIV-related lower limb polyneuropathy. Furthermore, chest imaging showed evidence of pneumocystis jirovecii pneumonia, which was treated with cotrimoxazole then clindamycin and primaquine after acute kidney injury. Examination showed ocular HIV-microangiopathy.

Coformulated bicitegravir, tenofovir alafenamide and emtricitabine was commenced. Severe behavioural disturbance, malnutrition, and deconditioning necessitated over two months of acute and sub-acute hospitalisation. Over the subsequent 12-months, there was progressive improvement in cognition, mood and motor function. After two months, she could walk unaided and the urinary catheter was successfully removed. HIV-retinopathy resolved. HIV viral load became undetectable after nine months and CD4+ T-cell count improved to 284 cells/ $\mu$ L (14%). Clinical improvement enabled her to live independently and pursue re-employment.

HAND presents with subcortical dementia, depression, and movement disorders. MRI characteristically shows multiple hyperintense signals bilaterally in subcortical white matter in T2-weighted images. Opportunistic conditions should be carefully excluded before diagnosing HAND. Polyneuropathy is diagnosed clinically and with NCS and electromyography. These conditions may improve with antiretroviral commencement, especially when initiated early.

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