A case of pediatric HIV myelopathy

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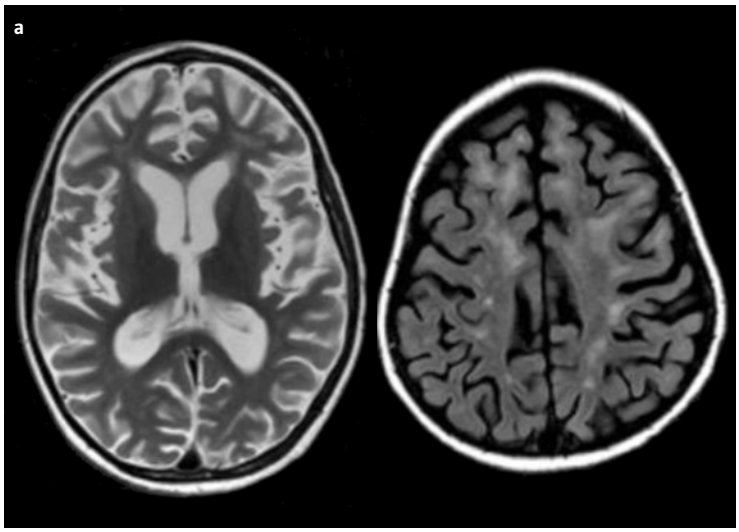

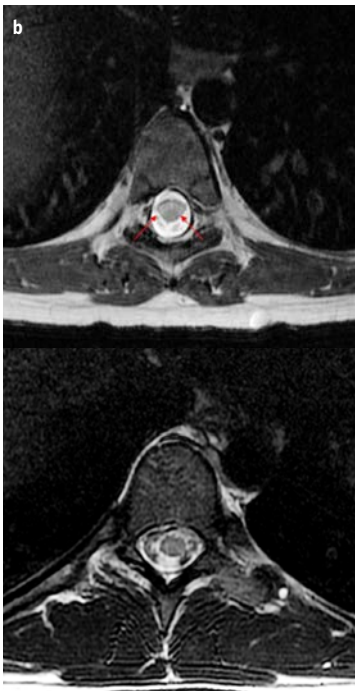

Figure 1. a) First MRI (axial T_2 on the left, axial FLAIR on the right) showing diffuse atrophy and white matter focal lesions. b) Spinal cord MRI (axial T_2) showing posterolateral bilateral contour flattening (arrows, on the top); on the bottom, a normal spinal cord MRI with more convex contour.

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Case report. Eight-year-old African boy with a progressive motor and cognitive regression: dysarthria, gait disturbance, and urinary/faecal incontinence. Physical exam showed muscular atrophy, spastic paraparesis with pyramidal tract signs. Magnetic resonance imaging (MRI) revealed corticosubcortical, cerebellar and brainstem atrophy, prominent ventricles and sulcii, multifocal white matter lesions (Fig. 1a) and spinal cord atrophy mainly in posterior and lateral columns (Fig. 1b), suggesting human immunodeficiency virus (HIV) infection, confirmed by serologic testing in child and mother. The child's viral load was 174,456 copies/mL, with 148 CD4/μL. Cerebrospinal fluid viral load was 193,258 copies/mL, negative for opportunistic agents. Vitamin B_{12} serum level was normal and antibody testing for human T cell lymphotropic virus type 1 (HTLV1) was negative. Eighteen months after beginning of antiretrovirals, the patient had a better school performance, recovered some motor skills, had an undetectable viral load and 836 CD4/μL. MRI showed major improvement (Fig. 2).

Discussion. Spastic tetraplegia or cognitive impairment can be the presenting feature of HIV infection [1,2]. This late presentation resembles the adult HIV-associated neurocognitive disorder, seen in late-stage disease [2] contrasting with the typical earlier catastrophic form of HIV encephalopathy [1,2].

Neurological complications of HIV often coexist [3]. Our patient also had changes suggesting HIV myelopathy, a late finding described in adults [3,4], usually with cervical and dorsal spinal cord atrophy and T_2 hypersignal in the posterior and lateral columns [3,4]. Here, the pyramidal signs in lower limbs and particularly bladder and bowel dysfunction are also likely to be related to myelopathy in addition to encephalopathy, and there are imaging signs of myelopathy, for which other

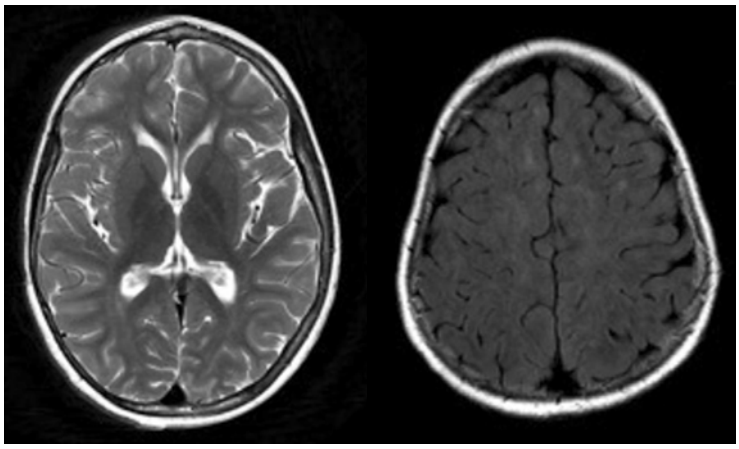

Figure 2. MRI 18 months after beginning of antiretrovirals (axial T_2 on the left, axial FLAIR on the right): lower degree of atrophy with smaller periventricular white matter changes.

causes were reasonably excluded. The clinical features of neurological HIV infection in children are uniformly thought to be secondary to brain disease [1], and MRI findings compatible with myelopathy were never reported before. Because HIV myelopathy and that due to vitamin B_{12} deficiency have similar appearance on MRI, it was speculated that the virus itself or some inflammation mediators in HIV infection lead to abnormal transmethylation [4].

References

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