

FOCAL VASOGENIC EDEMA IN THE BRAINSTEM SECONDARY TO PHENYTOIN TOXICITY

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Despite its unique pharmacological properties with potential risk for toxicity, phenytoin is still widely used in many parts of the world. Brain lesions on neuroimaging have rarely been reported following phenytoin toxicity and affect almost invariably the corpus callosum. We report a patient who presented with severe phenytoin toxicity and focal vasogenic edema in the brainstem. A 26-year-old man presented with an acute-onset confusional state. Neurological examination was suggestive of encephalopathy. Routine laboratory evaluation, brain computed tomography and cerebrospinal fluid analysis were normal. Electroencephalogram showed no evidence of epileptiform activity. Subsequent information revealed that the patient was diagnosed with epilepsy three months earlier and was treated with phenytoin. His serum phenytoin level was 259 $\mu\text{mol/l}$ (N-40-80 $\mu\text{mol/l}$). The patient underwent 3 sessions of hemodialysis which reduced the serum phenytoin level below 15 $\mu\text{mol/l}$ resulting in normalization of his mental status but still presented severe cerebellar signs, absent proprioception and diminished deep tendon reflexes in lower limbs. Brain magnetic resonance imaging (MRI) revealed a focal T2 weighted and FLAIR hyperintense signal in lower medulla/craniocervical junction lesion without diffusion restriction or contrast enhancement. One week later his cerebellar syndrome and sensory deficit had improved significantly, and follow-up brain MRI demonstrated partial resolution of the lesion. Transient focal vasogenic edema has previously been associated with phenytoin toxicity. However, there are no reports of phenytoin toxicity causing such lesions in the brainstem. Awareness of the possibility of these lesions is important since it may avoid unnecessary invasive diagnostic interventions.

Fig 1

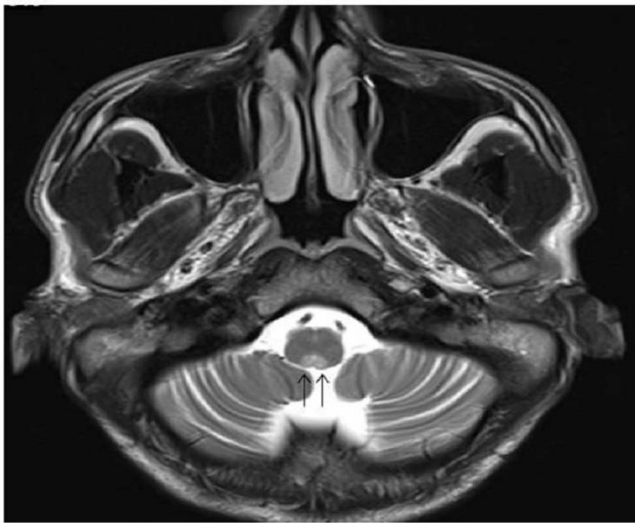


Fig 2

