Snake bite-induced myoclonus, myokymia and myospasm with leukoencephalopathy: a video presentation

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DESCRIPTION

A 41-year-old man, a previously healthy herpetologist, was admitted 3 h after being bitten on the left hand by a pit viper snake (species—*Bothrops atrox*), the natural habitat of which is the Central and South American, and West Indian rainforests. The patient developed vomiting, abdominal pains, limb myalgia, paraesthesia and diffuse muscle twitching. He

became confused, then apnoeic and received mechanical ventilation for 3 days. Myoclonus of pectoralis muscles bilaterally and right quadriceps was noted for 2 days. Myokymia and myospasms were observed in the thigh muscles (video 1, segments 1 and 2). Blood investigations were normal. Two phials of polyvalent snake antivenom were administered intravenously as recommended by the National Poison Centre of Trinidad and Tobago. The blood pressure was never elevated.

Electromyogram showed increased neuronal excitability with mild myopathic features. EEG showed cortical irritability in the left centroparietal and temporal area (figure 1).

MRI of the brain performed on day 6 showed multiple subcortical white matter hyperintensities in the frontoparietal and occipital lobes, with normal basal ganglia on axial T2-weighted views (figure 2A–C). At discharge on day 14, there was full recovery. A repeat MRI was not obtained.

Posterior reversible encephalopathy syndrome and snake bite leukoencephalopathy causing cortical rim and basal ganglia hyperintensities with Parkinsonism due to viper envenomation have both been described but without EEG findings.^{1 2}

Video 1 Segment 1 and 2 showing myoclonus of the pectoralis muscles bilaterally, and myokymia and myospasm in the right thigh muscles.

Figure 1 EEG showing isolated spike in C3 derivation, and sharp and slow wave complex in T3 derivation, consistent with cortical irritability in centroparietal and temporal areas of the left hemisphere.

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Figure 2 (A) Axial T2-weighted brain MRI showing minimal diffuse subcortical hyperintensity in the left occipital area (see arrow). (B) Axial T2-weighted brain MRI showing minimal diffuse subcortical hyperintensities in the right occipital area, bilateral centroparietal and right frontal area (see arrows). (C) Axial T2-weighted brain MRI showing normal basal ganglia.

Myokymia has been described in envenomation by the North American viper (rattlesnake), but descriptions with myoclonus and myospasms were not found.³

The pathogenesis remains unclear.

Learning points

- ▶ Snake envenomation has a high mortality rate globally, and is considered a neglected global health issue causing considerable mortality and morbidity.
- ▶ Myokymia is well recognised following snake envenomation and is considered a warning sign for possible artificial ventilation.
- ▶ Movement disorders and other neurological manifestations in snake envenomation are interesting phenomena needing further elucidation.

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