Imaging Features in Rabies Encephalities

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A 24 years old gentleman, became symptomatic since 3 days with fever and headache followed by dysphagia, hypersalivation and altered sensorium in further 2 days. His nervous system examination revealed skew deviation of eyes in primary gaze with both horizontal and vertical nystagmus with bilateral extensor plantars. He had a syndrome of rhombencephalitis with differential diagnosis of rabies encephalitis, listeria encephalitis, Japanese encephalitis and encephalitis by HHV6, enterovirus 71 and EBV.

His MRI revealed T2 and FLAIR hyperintensities involving bilateral basal ganglia, thalamus, medial temporal lobe and periaqueductal grey matter. This classical imaging feature though is seen in a variety of brainstem encephalitis listed above however, rabies encephalitis bear some peculiar features. Swelling and foci of hemorrhages, as seen in encephalitis caused by JEV or other arboviruses are absent in rabies. West Nile virus initially has normal MRI with cerebellar involvement in later stages. EBV has features of myelitis on MRI with intramedullary cord swelling. Corpus callosum involvement is seen in cases of dengue encephalitis which is absent in Rabies. Acute disseminated encephalomyelitis causes bilateral symmetrical hyperintense lesions in T2-weighted images that predominantly involve the white matter of the supratentorial structures, cerebellar peduncle, brain stem and cervical cord which is not seen in cases of rabies.

Finally, his CSF Examination had WBC 600/cmm, 70% Lymphocytes, Glucose 94mg/dl (S. Glucose 122 mg/dl), Protein 347 mg/dl. His CSF RT PCR for Rabies was Positive, Salivary RT PCR for Rabies was Positive, and Skin Biopsy RT PCR for Rabies was Positive.

We present this case to sensitize clinicians to these radiological features. In doubtful clinical situations, this may help in diagnosing the cause of encephalitis with further focused investigation and early treatment.

References
