

## **Thalamic Lesions Profile by MRI as Predictor of Outcome in Acute Disseminated Encephalomyelitis of Childhood**

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### **ABSTRACT**

**Background:** Acute disseminated encephalomyelitis (ADEM) is a febrile episode associated with disturbed consciousness, seizures and neurological dysfunctions.

**Objective:** The aim is to correlate between thalamic MRI findings and outcome and to determine if brain imaging can predict sequelae or not.

**Methods:** Thirty two cases of ADEM were recruited in the acute condition. Patients were hospitalized and given pulse methylprednisolone and IVIG. The neurological dysfunction was assessed clinically. Brain MRI, digital EEG and were done for all cases.

**Results:** Mean age at presentation was  $4.6 \pm 2.4$  years. Twenty were males and 12 females. Patients presented with motor weakness (100%), fever (80%), disturbed consciousness and seizure (73%) each. MRI brain showed multifocal punctate to large flocculent high T2 and FLAIR signal intensity involving subcortical white/grey matter junction (86%), periventricular white matter (80%), brain stem (40%), cerebellum (31%) and bilateral thalami (25%). Twenty three patients recovered without neurological deficits while 9 showed sequelae. All patients having bilateral thalamic involvement had sequelae. The thalamic lesions were in 2 cases in the form of hemorrhagic foci and necrosis. These two cases had severe neurological deficits in the form of spasticity with speech regression.

**Conclusion:** Thalamic lesions in ADEM are associated with neurological sequelae in the form of spasticity, squint and hemiplegia. MRI findings that may predict severe neurological deficits are hemorrhagic foci, necrosis or edema in thalamus.

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**Key Word:** Acute disseminated encephalomyelitis (ADEM), MRI findings and thalamic lesions, Childhood.