History
Term newborn with perinatal depression.

Diagnosis
Newborn HIE

Discussion
Hypoxic-ischemic brain injury depends upon the level of brain maturation at the time of the insult and the severity and duration of the hypoperfusion event. The degree of brain maturation dictates the configuration of the vascular supply as well as the state of regional metabolism in the neonatal brain. In mild to moderate hypoperfusion, cerebral blood flow is redistributed to ensure perfusion to the hypermetabolically active gray matter structures including the basal ganglia, brainstem, and cerebellum; this redistribution results in injury predominantly to the watershed zones of the cerebrum. In severe hypoperfusion, the vulnerable regions include the lateral thalami, posterior putamina, hippocampi, brainstem, corticospinal tracts, and the sensorimotor cortex. On MR images, abnormal T1 hyperintensity is the predominant feature and accompanied by restricted diffusion. Lactate doublet will be seen at 1.4 on MR spectroscopy.

Findings
MR-T1 hyperintensity in thalami and lentiform nuclei with restricted diffusion.

Reference

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