Teaching Neuro*Image*

Symmetric basal ganglia calcification in a 9-year-old child with MELAS

Sheng-Horng Chung, MD; Shyr-Chyr Chen, MD;
Wen-Jone Chen, MD, PhD; and Chien-Chang Lee, MD, MSc

A 9-year-old boy presented with headache, vomiting, and leftward eye gaze deviation. On examination, left homonymous hemianopia, horizontal nystagmus, and anisocoric pupils were noted. Brain CT disclosed symmetric calcification in basal ganglia (figure A). Blood examination showed lactic academia. Further MRI revealed right occipito-temporo-parietal cortical hyperintensities (figure, B and C). Muscle biopsy revealed ragged-red fibers, and genetic study showed an A3243G point mutation, confirming the diagnosis of mitochondrial encephalomyopathy, lactic acidosis, and strokelike symptoms (MELAS). Symmetric basal ganglia calcification, focal cerebral lesions not confined to the vascular territories in a young patient warrant further workup for mitochondrial cytopathy.[1,2]

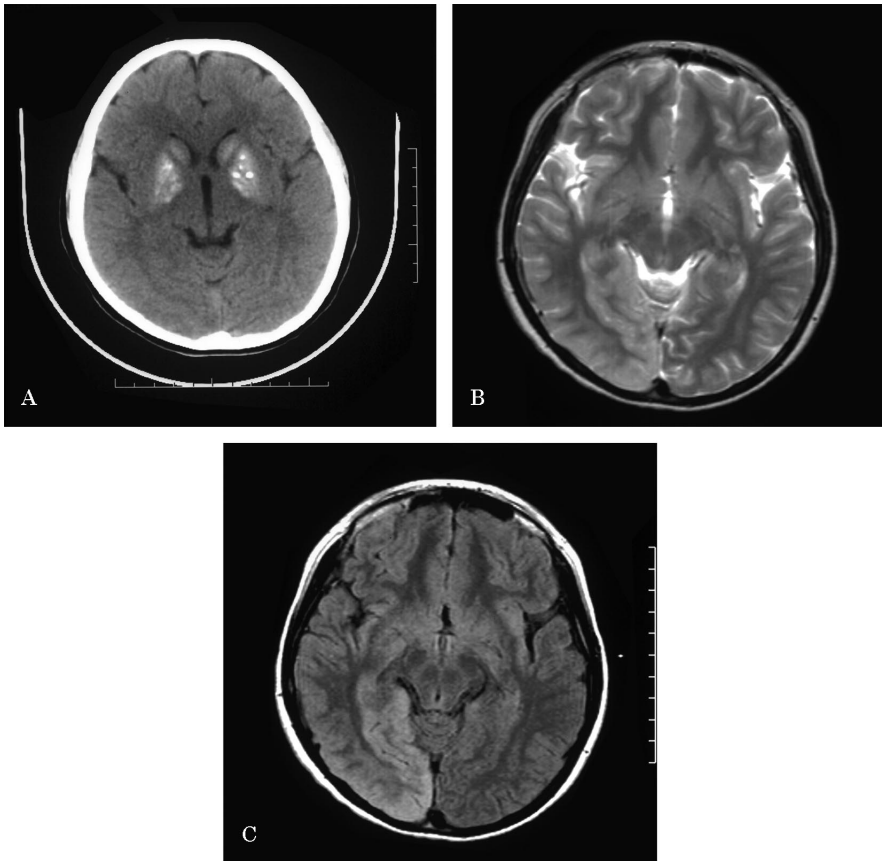

Figure. (A) CT image of brain shows symmetric bilateral hyperintensities in bilateral putamen, globus pallidus, and caudate head. (B) T2-weighted axial MRI shows areas of hyperintensities over peripheral parenchyma of right occipital, temporal, and parietal lobes. (C) Axial fluid-attenuated inversion recovery MRI shows right occipital, temporal, and parietal peripheral parenchyma hyperintensities, which do not correlate with vascular territories.

References

1. Valanne L, Ketonen L, Majander A, Suomalainen A, Pihko H. Neuroradiologic findings in children with mitochondrial disorders. Am J Neuroradiol 1998;19:369–377.
2. Sue CM, Crimmins DS, Soo YS, et al. Neuroradiological features of six kindreds with MELAS tRNA (Leu) A2343G point mutation: implications for pathogenesis. J Neurol Neurosurg Psychiatry 1998;65:233–240.

From the Department of Emergency Medicine, National Taiwan University Hospital, Taipei.

Disclosure: The authors report no conflicts of interest.

Address correspondence and reprint requests to Dr. Chien-Chang Lee, Department of Emergency Medicine, National Taiwan University Hospital, No.7 Chun-Shan South Road, Taipei, 100, Taiwan; e-mail: chnchnglee@ha.mc.ntu.edu.tw

