Teaching NeuroImages: Hippocampal sclerosis in cerebral malaria

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Figure MRI scans in cerebral malaria

A 39-year-old woman presented with fever, malaise, and headache after visiting Tanzania. Peripheral smear showed *Plasmodium falciparum* and *Plasmodium ovale* with parasitemia >14%. Within hours, she became unresponsive. MRI demonstrated punctate foci of microhemorrhage throughout the deep white matter, and hippocampal restricted diffusion (figure). Five days of video-EEG were negative for seizure. She was discharged after 3 weeks of quinidine, doxycycline, and primaquine. Repeat MRI showed bilateral hippocampal sclerosis; repeat EEG was normal. Follow-up examination was only notable for short-term memory impairment.

Both microhemorrhages and ischemia are seen in cerebral malaria.¹ Diffuse edema and T2 white matter hyperintensities are also common,² although not appreciated here. Given prolonged EEG monitoring without seizure, the bilateral hippocampal sclerosis is likely secondary to microvascular ischemia.

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Author contributions

K. Lillemoe: study concept and design, manuscript preparation. D. Brewington, A. Lord, B. Czeisler, A. Lewis: data collection and analysis, manuscript editing. A. Kurzweil: study concept and design, manuscript preparation.

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