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SPECT in periodic lateralized epileptiform discharges (PLEDs): A case report on PLEDs

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Periodic lateralized epileptiform discharges (PLEDs), which are known as unusual electroencephalogram (EEG) patterns, are described in a patient who had stroke and seizures. This patient underwent Tc-99m HMPAO (hexamethyl propylene amine oxime) brain single photon emission computed tomography (SPECT) imaging both during PLEDs on EEG and after the cessation of PLEDs. The initial SPECT study revealed increased CBF in the left frontal and parietal cortex extending through the left temporal region and in the left basal ganglium. After the PLEDs disappeared, the second SPECT study showed decreased perfusion on the left frontal and parietal region in the brain. Brain SPECT findings supported the contention that PLEDs may be an ictal phenomenon. Here we also present a review on PLEDs and contributions of brain SPECT as a functional imaging modality to investigate the underlying mechanism of this interesting EEG pattern.

Key words: PLEDs, Tc-99m HMPAO, SPECT, seizure, EEG