

Transient periodic lateralised epileptiform discharges (PLEDs) following internal carotid artery stenting

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ABSTRACT – *Background.* Periodic lateralised epileptiform discharges (PLEDs) are EEG patterns consisting of periodic or pseudoperiodic unilateral, focal or hemispheric epileptiform discharges at a rate of 1-2 Hz. PLEDs may be triggered by acute brain injuries or systemic metabolic changes such as fever, hyperglycaemia or electrolyte imbalance and may result in disturbance of consciousness and/or neurological deficits. *Case report.* A 58-year-old female with a history of focal epilepsy and deep brain haematoma presented with acute change in awareness, associated with EEG evidence of PLEDs, three days after a left internal carotid artery stenting procedure. Clinical examination, laboratory testing and MRI were unchanged with respect to pre-stenting investigations. *Conclusion.* In this patient, PLEDs may have been triggered by local haemodynamic changes due to reperfusion after stenting in a previously damaged brain area.

Key words: PLEDs, carotid artery stenting, EEG periodic discharges

Periodic lateralised epileptiform discharges (PLEDs) are peculiar EEG patterns consisting of unilateral, focal or hemispheric epileptiform potentials (spikes, spike and waves, sharp waves, and polyspikes) recurring in a periodic or pseudoperiodic fashion, at a rate of 1-2 Hz (Baykan *et al.*, 2000). Usually self-limiting over time, this electrical event may rarely persist for months or even years (Westmoreland *et al.*, 1986). PLEDs

are believed to be triggered by a systemic condition which lowers the seizure threshold (Grand'Maison *et al.*, 1991).

Neurological correlates of PLEDs are disturbances of consciousness (81%), cognitive deficits and epileptic seizures (90%) (Baykan *et al.*, 2000; Westmoreland *et al.*, 1986).

Although the pathophysiology of this electrical phenomenon has not been completely clarified, it was

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