

Internal carotid artery stenting for secondary prevention of stroke: case series study

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Abstract

Background: Internal carotid artery atherosclerosis accounts for an estimate of 15 – 25% of ischemic strokes. Carotid revascularization techniques have proven useful in reducing the incidence of ischemic stroke. Nowadays, carotid artery stenting is a basic treatment for carotid stenosis.

Material and methods: The study represents a series of 60 consecutive symptomatic patients who underwent carotid stenting for critical carotid stenosis between August 2019 and April 2021. All the procedures were performed in Institute of Neurology and Neurosurgery. Main outcomes like morbidity and mortality rates at 30 days post procedure; repeated ischemic stroke in the territory of stented artery; and common complications were registered.

Results: All the patients were initially evaluated with an angiographic study (CT angio or angiography) for planning the intervention. The patients were operated under conscious sedation and with distal embolic protection. The design of the stents was chosen according to the vascular anatomy of carotid bifurcation. In our case series of patients, we did not register major complications during, or in first 30 days after the procedure. One patient had a hyperperfusion syndrome, which was resolved with careful arterial tension monitoring.

Conclusions: Carotid stenting is a safe and efficient procedure, with low periprocedural complications and good outcomes in correctly selected patients. Due to its minimal invasiveness, in the future it may become first choice procedure in the treatment of carotid artery stenosis.

Key words: ICA stenosis, stenting, stroke, atherosclerosis.

Myoclonic seizures and the frontal lobe

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Abstract

Background: Recent studies suggest a presumed focal origin of myoclonic seizures. In the current study, we aimed to appreciate the cortical sources of the interictal generalized discharges examining patients with myoclonic seizures using high-density EEG (HD-EEG).

Material and methods: In this study, 40 patients (mean age \pm standard deviation: 25 ± 7 years; 14 males) with myoclonic seizures were included. All participants were scanned with a 3T MRI machine and 256-channel EEG recording. For spatio-temporal source reconstruction, LORETA (low resolution brain electromagnetic tomography) solution was applied.

Results: In all 40 patients, the electric sources of interictal generalized discharges were detected in the frontal lobe. In 17 (42%) patients the origin of discharges was in the middle frontal gyrus (Brodmann Area (BA)-9 in 7 patients, BA-10 in 3 patients, BA-6 in 4 patients and BA-8 in 3 patients). In 13 (33%) patients the origin was identified in the superior frontal gyrus (BA-6 in 9 patients, BA-10 in 3 patients and BA-8 in 1 patient). In 10 (25%) patients the source was localized in the inferior frontal gyrus (BA-11 orbital part in 8 patients and BA-46 in 2 patients).

Conclusions: HD-EEG data suggest that myoclonic seizures are not truly generalized seizures in the sense of global activation of the cortex, but rather restricted networks of cortex are involved in the discharges and primarily recruit the frontal lobe networks.

Key words: myoclonic seizures, frontal lobe, high-density electroencephalography.