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Partial motor status epilepticus as a clinical manifestation of carotid stenosis

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Abstract

Limb shaking (LS) is often confused with focal motor seizures. Distinguishing between both is crucial, because LS may represent an indicator of severe carotid occlusive disease and patients are at high risk of stroke. We report the case of a patient with occlusive carotid stenosis without definite stroke who develops partial motor status epilepticus (SE). Clinical, neuroimaging and electroencephalographic findings are provided. We conclude that focal motor seizures should be distinguished from LS based on clinical and electroencephalographic findings.

Introduction

Since Miller Fischer described limb shaking (LS) in 1962 as a rare clinical manifestation of severe stenosis carotid in humans with transitory ischemic attack (TIA) [1] this diagnosis has been reported regularly [2]. However in rat models of middle cerebral artery occlusion with cerebral infarction periodic lateralized epileptiform discharges (PLEDs) occurred ipsilateral to the lesion within the first 72-hour period (ischemic and reperfusion) in most of the animals tested [3].

LS is often confused with focal motor seizures. Distinguishing between both is crucial, because LS may represent an indicator of severe carotid occlusive disease and patients are at high risk of stroke [4]. The clinical features of LS are rhythmic or arrhythmic involuntary hyperkinesias affecting the hand, arm, leg, hand-arm, or hand-arm-leg unilaterally. The face muscles are always spared and tonic contractions, tonic-clonic jerking "jacksonian march" or choreathetotic movement have never been observed. Upper limb are more evidently affected. During attacks conscience is preserved. The frequency is variable from isolated episodes to several episodes a day, lasting for seconds or minutes.

In the following report we present a case of partial motor status epilepticus with preocclusive carotid stenosis without stroke that responded to treatment with antiepileptic drugs.

Case report

The patient is a 74-years-old right-handed man with a history of hypertension and emphysema. While working in his garden he felt dizziness. He developed dysarthria and right hemiparesis. He was admitted at our hospital and 75 minutes later he suffered the first seizure: his eyes turned to the right, the right arm rose up and developed myoclonic jerks in right arm, leg and face during one minute. His consciousness was impaired during the attack. Two hours later, he suffered two right partial motor seizures secondarily generalised. He was put on treatment with diazepan intravenous and valproic acid. On admission the clinical exam showed right hemiplegia, motor aphasia and was semiunconscious. His brain CT scan and cerebrospinal fluid analysis were normal. In the following hours he developed a status epilepticus (SE) defined by regular or irregular myoclonic jerk involving the right side of the face and distal upper limb with anartria. He stayed for 25 days in the Intensive Care Unit with assisted ventilation and intravenous treatment with up to four antiepileptic drugs. Currently the patient suffers a dysphasic aftermath. He is on antiplatelet treatment and two antiepileptic drugs (levetiracetam 1500 mg per day and phenitoin 300 mg per day) and has not suffered more seizures.

Results

Several ictal video-EEGs were performed. A Video-EEG performed 12 hours after admission showed sharp wave or tryphasic activity on the left frontotemporal area with spontaneous clonic twitching in right side of his face. Another one (additional file 1) registered a partial motor

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