

First attack of probable migraine with aura (prolonged aura) and EEG abnormalities.

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Background

Probable migraine with prolonged aura, characterized by atypical aura (for duration and features) and EEG abnormalities, could complicated the initial diagnosis taking into account that an “ictal epileptic headache” has been described [1].

Materials and methods: case report and review of the literature

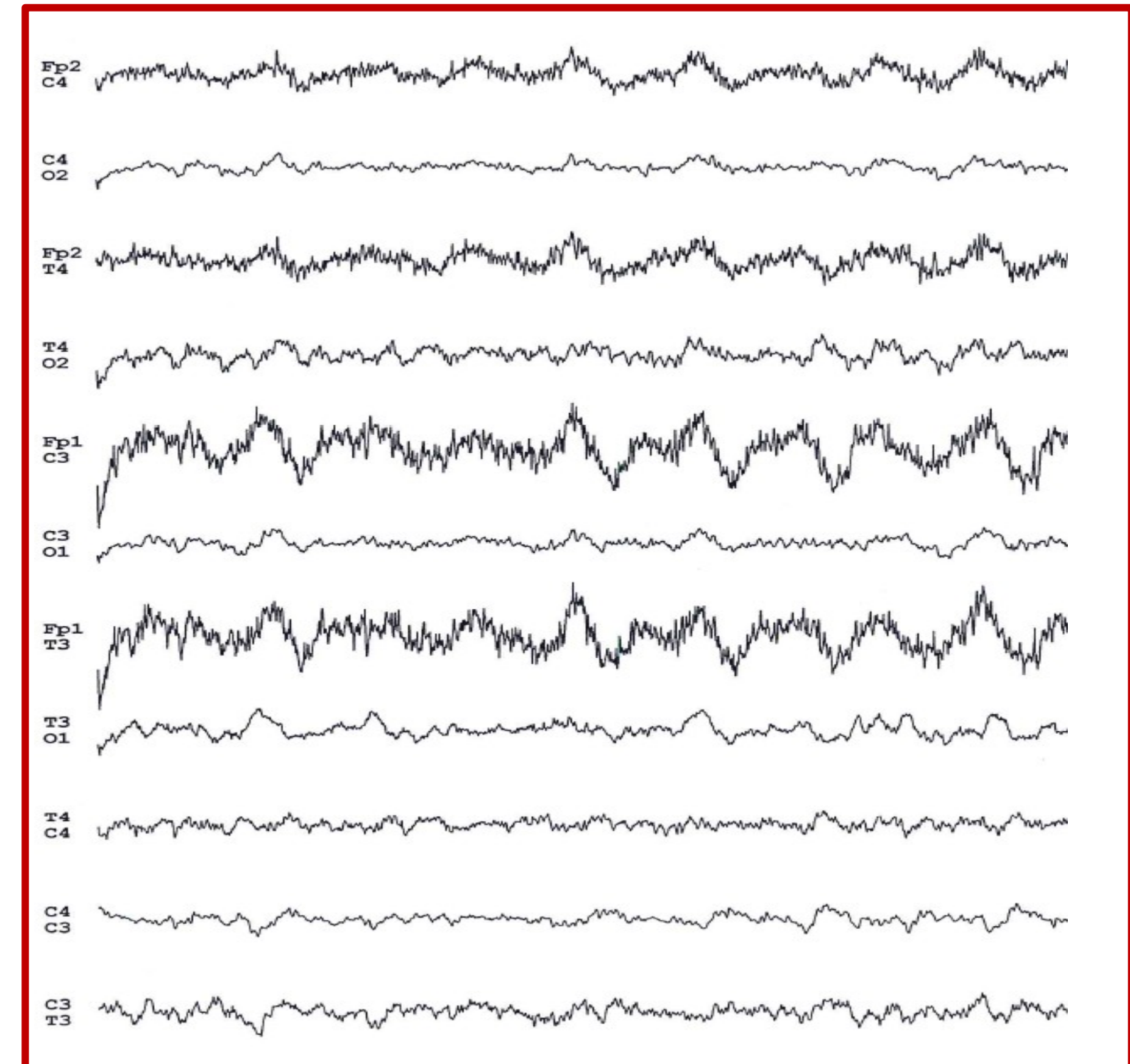
Results: A 20-years old boy, previously healthy, was referred to our emergency department with speech abnormalities and agitation without fever. Neurological examination showed aphasia with frequently phonemic errors and agitation, no other signs were observed. Brain Computed tomography (CT) and magnetic resonance (MR, picture b) were normal. CT-angiography revealed no vascular abnormalities. An electroencephalogram (EEG), performed during the episode, showed slowing sharp periodic wave on left fronto-temporal lobe (picture a). After midazolam intravenous, lumbar puncture was performed: glucose and protein was normal and no white cells was present. Intravenous acyclovir and ceftriaxone were administered pending of cerebrospinal fluid analysis to rule out viral or bacterial encephalitis. After sedation, the patient was calm, he did not remember what had happened in the previous 5 hours. After aphasia recovery, he reported dazzling zigzag lines, like fortification spectra, that move slowly across a visual loss in right field of vision lasted 30 minutes before hospital admission; numbness in the both arms, followed by unilateral and pulsating left headache and dysphasia, latter lasted 5 hours. PCR in CSF for viral and bacterial infections were negative. EEG on discharge was normal (picture c) and showed rare slowing sharp wave, diffuse, only during hyperpnoea. We hypothesized a first attack of probable migraine with aura (prolonged aura).

Discussion: in our case the prolonged aura, the agitation, and EEG unilateral periodic slow-wave have made it difficult for an immediately diagnosis. According to current theory that the aura is caused by Cortical Spreading Depression (CSD), EEG abnormalities can be explained as expression of CSD [2]. In this young patient there was well defined concordance between the topography, the type of neurological symptoms and the lateralization of EEG abnormalities.

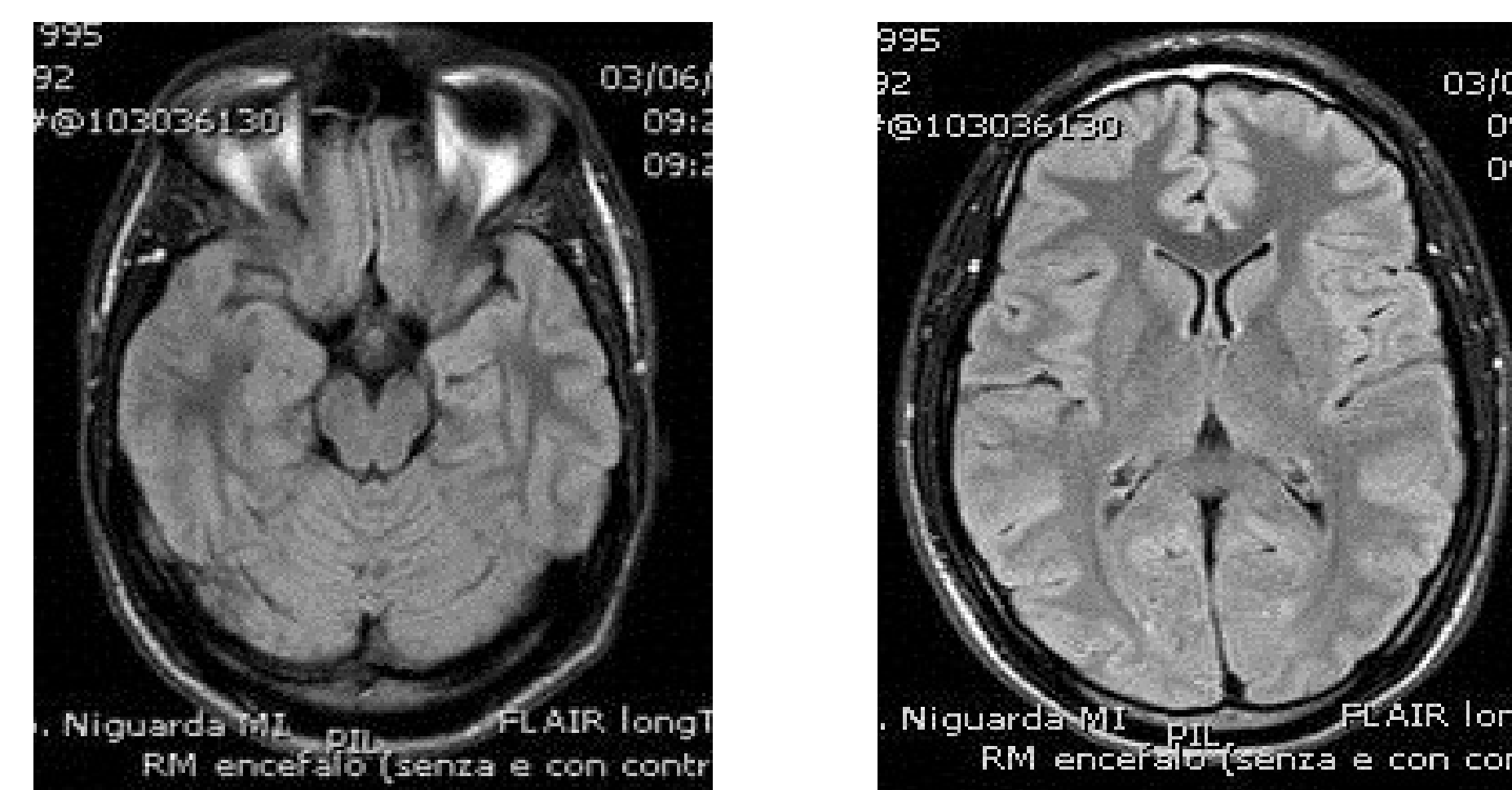
Conclusion: according to the literature, first aura symptoms vary to a great extent in complexity and duration in teenager migraineurs [3]; higher cortical disturbances in teenagers migraine aura are frequent and amnesia could be present. An appropriate follow up is necessary to confirm our diagnostic hypothesis in this young adult.

Bibliography:

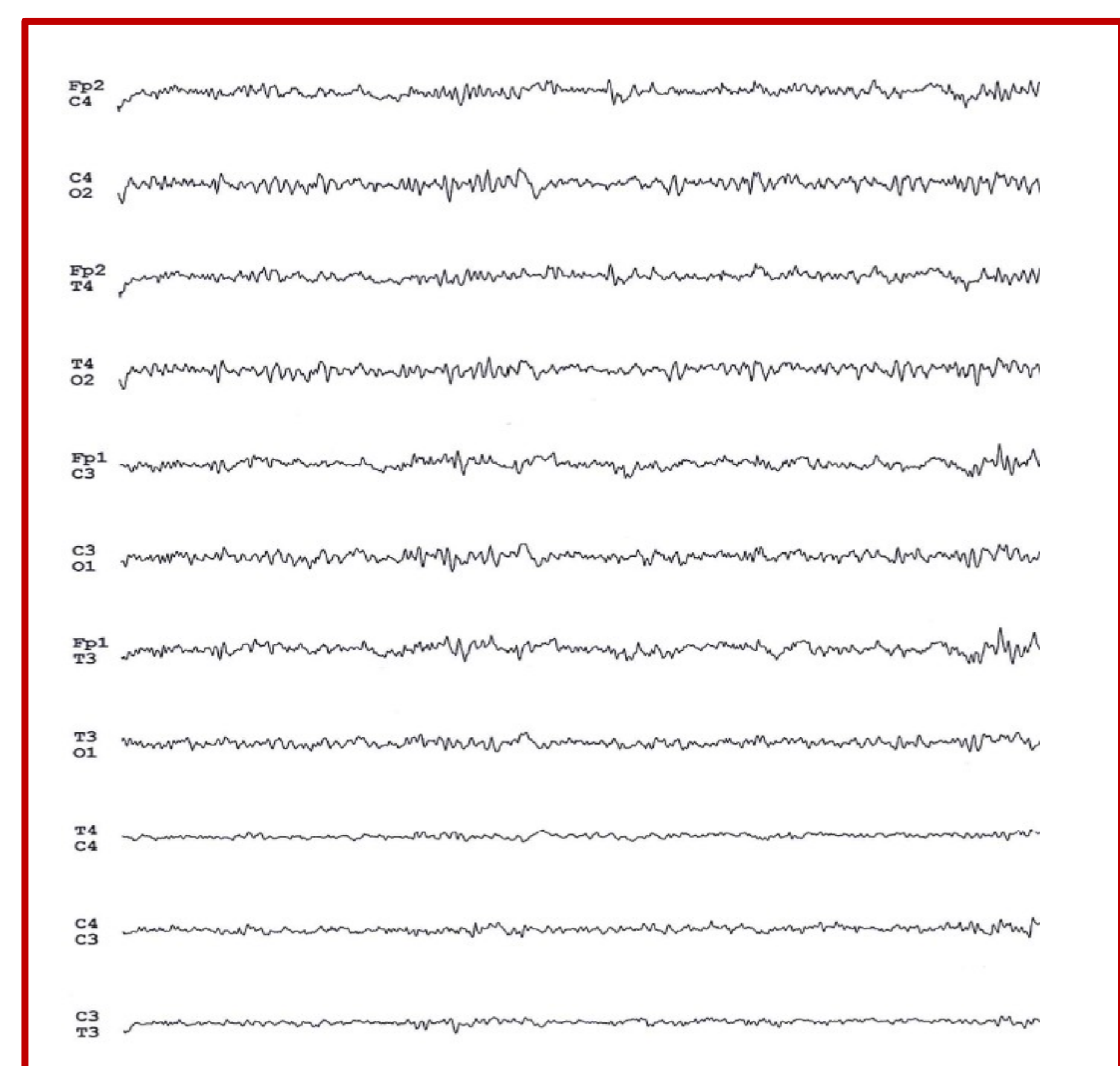
- 1) P. Parisi, A. Verrotti, P. Costa, et al. Striano Diagnostic criteria currently proposed for “ictal epileptic headache”: Perspectives on strengths, weaknesses and pitfalls. *Seizure* 31 (2015) 56–63.
- 2) D. Parain, A. Hitzel, E. Guegan-Massardier et al. Migraine aura lasting 1-24 h in children: a sequence of EEG slow-wave abnormalities vs vascular events. *Cephalalgia*, 2007; 27: 1043-1049.
- 3) I. Petrusic, V. Pavlovski, et al. Features of migraine aura in teenagers. *The Journal of Headache and Pain* 2014; 15:87



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b



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