

Migraine with aura: MRI with perfusion aspects in the ictal and interictal phases

Enxaqueca com aura: aspectos da ressonância magnética com perfusão nas fases ictal e interictal

Paulo Sergio Faro Santos ¹
Bruno Augusto Telles ²

¹ Instituto de Neurologia de Curitiba,
Departamento de Neurologia -
Curitiba - PR - Brasil

² Instituto de Neurologia de Curitiba,
CETAC - Diagnóstico por Imagens -
Curitiba - PR - Brasil

We describe the case of a 16-year-old adolescent with diagnostic previous of migraine without and with aura (only sensory), who presented with aphasia of speech, associated with severe retroorbital pain and frontal headache on the left, associated with nausea, photo and phonophobia. He was admitted to the emergency room with suspected stroke and was submitted to magnetic resonance perfusion imaging of the brain (Figure 1). After ruling out suspected cerebral ischemia, treatment with symptomatic medications was performed, progressing to improvement of symptoms after about 2 hours.

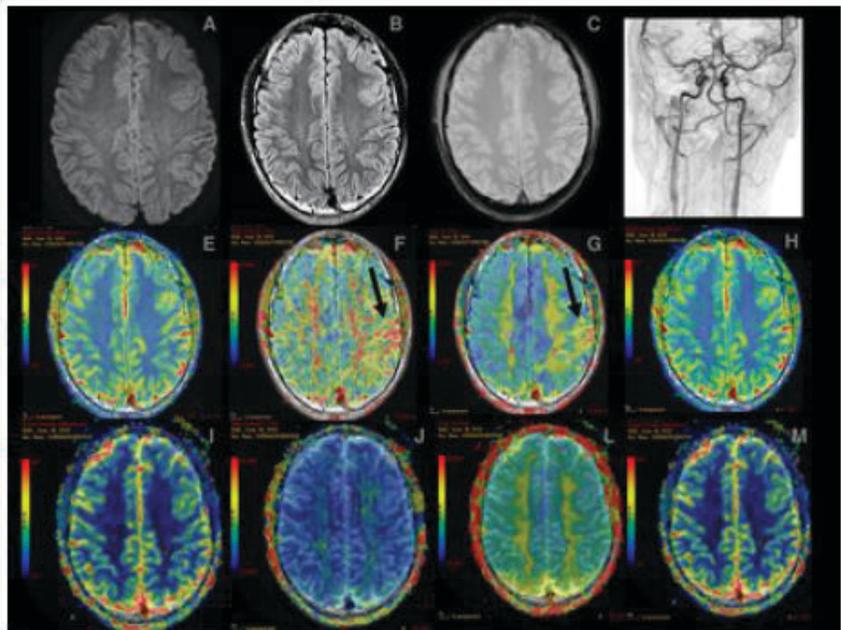


Figure 1. A-D demonstrated fast protocol to exclude recent ischemia or bleeding, with patency of large intracranial vessels and without significant changes in structural images (Diffusion, Gradient-Echo and FLAIR). E-H with the reconstructions of the perfusion study and highlighting the important increase in time to the plateau (TTP - figure G) and mean transit time (MTT - figure F), with no changes of the other parameters. I-M with the perfusion control study and characterizing the regression of the previously evidenced changes.

Approximately 1 month later, a new perfusion MRI was performed for comparison, which revealed complete disappearance of the alterations of the first exam. In this interval, the patient presented only episodes of migraine without aura.

Migraine with aura (MwA) accounts for about 30% of all cases of migraine and predominates in females ⁽¹⁾. Its diagnosis was recently updated by the third edition of the International Classification of Headache Disorders ⁽²⁾. Visual aura accounts for 99% of auras, followed by sensory (54%) and speech / language (32%) ⁽¹⁾.

*Correspondence

Paulo Sergio Faro Santos
E-mail: dr.paulo.faro@gmail.com

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Usually at the first manifestation or at the change in the aura pattern, neuroimaging is necessary, considering secondary headache, because one of the main differential diagnoses is the stroke. The gradual onset of neurological deficits, the association with headache that is typically migrainous, and the absence of ischemia on neuroimaging exams are suggestive of MWA^(2,3). Perfusion MRI in the ictal phase reveals decreased cerebral blood flow, with no abnormalities in the DWI sequence, that is, at sub-ischemic levels. Vascular alteration that is reversed in the interictal period⁽³⁾.

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