LETTER TO THE EDITOR

MIGRAINE WITH PERSISTENT VISUAL AURA: RESPONSE TO FUROSEMIDE

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INTRODUCTION

Persistent migraine aura without infarction is a rare but well documented condition. According to the International Headache Society (HIS) criteria, this disturbance is defined by the persistence of a migraine aura for more than one week without radiographic evidence of infarction.[1]

Here we describe the case of an 11-year-old girl suffering from migraine without aura since the age of four. She experienced two episodes of persistent negative visual aura with no evidence of infarction. To the best of our knowledge, this is the first Brazilian case reported in the literature. Interestingly this patient demonstrated a clinical recovery following treatment with oral furosemide.

CASE REPORT

An 11-year-old girl was admitted to our headache unit complaining of headache associated with a persistent negative phenomenon ("shadow" in the eyes) that interfered with her visual function. The week prior to assessment she experienced a transitory neurological symptom described as bright zigzag lines in her temporal visual fields. A similar episode occurred six months before, with persistence of the visual field defect for four months. She had a 7-year history of migraine without aura, and her family history was positive for migraine with aura in her father.

Neurological examination was normal, except for right hemianopsia. This finding was confirmed by ophthalmologic examination, including computerized campimetry. Magnetic resonance neuroimaging studies comprising T1, T2, and FLAIR sequences were unrevealing.

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The patient was prescribed atenolol at a dosage of 25 mg daily. She displayed remission of the headache, but persistence of the negative visual phenomenon. Forty milligrams of Furosemide p.o. daily was then prescribed, with subsequent complete resolution of the visual symptoms in five days. This medication was discontinued during follow-up, and no further visual aura emerged.

DISCUSSION

Persistent visual symptoms lasting several days without infarction are rare complications of migraine. This condition was first described in a 65-year-old woman who developed such a phenomenon that persisted for over 12 months despite treatment.[2] A total of 29 cases were identified in the literature by a recent review.[3] This migraine-related complication seems to be more common in women. The youngest patient reported was nine, and the oldest was 70 years of age. It is worth mentioning that other aura phenomena, such as numbness, paraesthesia, and even clumsiness, may be persistent.[3,4]

The pathophysiology of prolonged visual aura is not understood, but several mechanisms are probably involved, including sustained reverberating waves of cortical spreading depression.[5] There is no radiographic evidence of infarction, but functional neuroimaging studies have demonstrated cortical blood hypoperfusion in certain cerebral areas.[2,6-8]

Drugs such as carbamazepine, tricyclics, nifedipine, flunarizine, beta blockers, and analgesics were not helpful in the treatment of persistent aura.[2,7] Drugs that act on cortical spreading depression, such as valproic acid and lamotrigine, have been proposed to be of value.[5,6,8] Furosemide is also a very effective therapeutic option, providing symptom resolution in a few days following intravenous administration.[4,9] The rationale for using furosemide is its effect on potassium, a key element in the first steps of cortical spreading depression.[9,10]

Our patient probably experienced spontaneous resolution of her first episode of persistent visual aura. In the second

episode, oral furosemide may have contributed to the resolution of her symptoms. Further studies are necessary to confirm the efficacy of furosemide in this context. Nevertheless, this report and others support furosemide as a reasonable option for the treatment of persistent visual migraine aura.

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