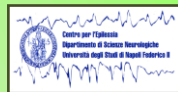


CRITICAL HEADACHE, MIGRALEPSY OR SIMPLE COMORBIDITY ?



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Objectives

Epilepsy-Headache is a frequent comorbidity, usually post-critical or inter-critical. Rarely, a headache may be the presenting symptom of a seizure (Fanella M et al, Parisi P et al). The possibility of a seizure triggered by a migraine attack with aura has been described since 1960 by Lennox who coined the term «Migralepsy». We present a case of a complex association of Migraine with aura-Epilepsy and discuss the possible relationship between the two conditions.

Case report

F, 34 years.

First of three siblings, born at term after natural delivery, normal psychomotor development.

Family history: negative for Epilepsy, febrile seizures, headache.

Since she was 15 years old she suffered from sporadic tonic-clonic seizures during wakefulness. The EEG showed generalized spikes and poli-spikes and waves discharges. The brain MRI was negative. She was briefly treated with VPA becoming seizures free. After a year she suspended the treatment and remained seizures free up to the age of 32 years. At that age she presented with typical episodes of migraine with aura, mainly perimenstrual. One of these was followed by a tonic-clonic generalized seizures. Afterwards the patient manifested polymorphic episodes:

- migraine with aura (EEG of a typical attack recorded a depression located on the posterior temporal and left occipital areas, Fig. 1);
- elementary visual hallucinations (flashes in the right visual hemi field) with or without headache and/or a feeling of alienation;
- migraine followed by gastric aura with affective changes and sometimes blank spells with automatism;
- complex visual hallucinations and déjà vu;
- rare events of short critical aphasia or clonic movements of the eyes;
- sporadic migraine with aura followed by a tonic-clonic generalized seizure.

During one of the last described episodes, a post critical EEG highlighted a pseudo-periodic paroxysmal activity on the left occipital area (Fig. 2). The brain MRI showed alteration of the signal with contrast enhancement in the occipital paramedian left area. This lesion has been confirmed during subsequent controls, though reduced in dimensions and with absent contrast enhancement (Fig. 3).



Fig. 1 EEG of a typical attack of migraine with aura showing a focal depression under T5. The two boxes show the frequency spectrum of the electrodes T6-T5.

References

- 1) Parisi P, Striano P, Belcastro V. The crossover between headache and epilepsy. *Expert Rev Neurother*. 2013 Mar; 13(3):231-33.
- 2) Verrotti A, Striano P, Belcastro V, Matricardi S and oth. Migralepsy and related conditions. *Seizures*. 2011 May; 20(4):271-5.
- 3) Kasteleijn-Nolst T, D, Parisi P. Migraine in the borderland of epilepsy: "Migralepsy" an overlapping syndrome of children and adults ? *Epilepsia*. 2012; 53 (Suppl. 7):20-25.



Fig. 2 Post-critical registration (migraine with aura-tonic-clonic generalized seizure) showing a pseudo-periodic paroxysmal activity on the left occipital area.

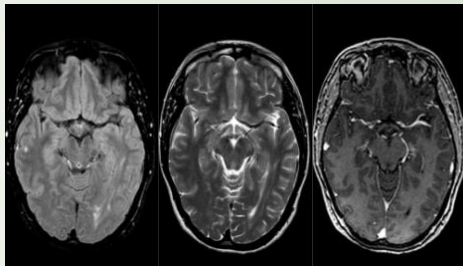


Fig. 3 Brain MRI (FLAIR, T1, T2 with contrast enhancement) showing a left subcortical occipital lesion around the ipsilateral occipital horn, without mass effect and with absent contrast enhancement.

Conclusions

Summary of the clinical history:

- past medical history of idiopathic generalized epilepsy during adolescence, with rare seizures, rapid remission under VPA;
- long free interval;
- subsequent occurrence of migraine with aura (with critical EEG pattern suggestive of «spreading depression») and tonic-clonic generalized seizures (Migralepsy) and focal seizures with clinical characteristics of occipital and/or left temporal lobe, linked or independent from a migraine attack. EEG and instrumental findings (MRI) were consistent with a left occipital lesion.

The present case, in addition to the etiological considerations is an example of the possible comorbidity and interdependency Epilepsy-Headache.