

Is there a relationship between white matter lesions associated with migraine and patent foramen ovale? Analysis of a series of patients with chronic migraine [¿Existe relación entre las lesiones de la sustancia blanca asociadas a migraña y el foramen oval permeable? Análisis de una serie de pacientes con migraña crónica]

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Introduction. White matter lesions are more prevalent in migraine patients than in the general population, especially those with a high frequency of attacks. A patent foramen ovale has been described as a possible link between migraine and white matter lesions. **Aim.** To determine the existence of a possible relationship between a patent foramen ovale and white matter lesions in a series of patients with chronic migraine. **Patients and methods.** Observational, single-centre, case-control study. Eighty-nine women with chronic migraine were selected. The persistence and characteristics of the patent foramen ovale were assessed by means of a transcranial Doppler study. The patent foramen ovale was classified as small, moderate or massive. Those detected at rest were considered permanent, and the others were classified as latent. The MRI protocol included T1-enhanced sagittal images, FLAIR-T2enhanced axial images, and a proton density and T2-FSE combined sequence. The white matter lesions were classified as deep, periventricular or both. **Results.** The prevalence of patent foramen ovale (53.6% versus 48.5%; $p = 0.80$) and the proportion of massive, permanent patent foramen ovale were similar among patients with and without white

matter lesions. Neither was there any difference in the prevalence (55.6% versus 52.6%; $p = 1.00$) or the characteristics of the patent foramen ovale as a function of the distribution of white matter lesions. Conclusion. The results do not suggest that a patent foramen ovale intervenes in the pathophysiology of the white matter lesions observed in patients with migraine. © 2020 Revista de Neurología

Magnetic resonance

Migraine

Paradoxical embolism

Patent foramen ovale

Transcranial Doppler ultrasonography

White matter lesions

Article

case control study

chronic disease

controlled study

density

disease association

female

human

hypothalamus periventricular nucleus

image analysis

image enhancement

major clinical study

observational study

patent foramen ovale

pathophysiology

prevalence

transcranial Doppler ultrasonography

transformed migraine

white matter lesion