Migraine Relief After Patent Foramen Ovale Closure: Should Vascular Risk Factor Control Be Achieved First?

To the Editor:

We have read with interest the article recently published in Stroke, “Shunt-associated migraine responds favorably to atrial septal repair”, by Anzola and colleagues.1 In their study, the authors focus on migraine course after transcatheter closure of patent foramen ovale (PFO). After a 12-month follow-up, patients who had undergone PFO closure showed a significant reduction in migraine frequency as compared with controls. This study adds to previous findings showing efficacy of PFO closure on migraine outcome in different populations.2–5

However, some possible confounding factors might have partially influenced the results of these studies. For instance, although there is general agreement on a possible confounding effect of aspirin therapy on migraine relief after PFO closure, the effect of lifestyle changes on coexisting vascular risk factors as to migraine outcome needs further attention. A recent large (n=5755) population-based study has shown that migraineurs, particularly with aura, have more classic risk factors for cardiovascular disease as smoke habit, an unfavourable cholesterol profile, hypertension, history of early onset coronary artery disease or stroke, and contraceptive use compared with controls, with doubled odds of having elevated Framingham risk score for coronary artery disease.6 Anzola and his colleagues1 reported the rates of classic vascular risk factors in their patient subgroups, and the presence of vascular risk factors was taken into account as covariate in multiple regression analysis. However, the authors have not specified the rates of vascular risk factor control achieved during the follow-up, or changes in lifestyle achieved in the subgroups of patients who underwent PFO closure. This information might have been of relevance because they interestingly observed that the presence of 1 or more classic vascular risk factors was higher in controls compared with individuals who underwent PFO closure.

Although lifestyle changes are recommended as essential step in migraine prophylaxis, little emphasis has been devoted to the evidence-based efficacy of this approach to migraine outcome in patients with vascular risk factors. The effectiveness of comprehensive lifestyle changes has been tested in the Multicenter Lifestyle Demonstration Project7 as an alternative to cardiac revascularization. In this study, patients were randomized to either cardiac revascularization or they went through an intensive program developed to introduce appropriate behavioral changes toward healthier life-styles. The study has shown that not only patients in the experimental group were able to avoid revascularization for at least 3 years by making comprehensive lifestyle changes without increasing cardiac morbidity and mortality, but they also reported reductions in angina comparable with what can be achieved with revascularization. This approach also proved to be cost-effective.

In order to ascertain the real effectiveness of the invasive PFO closure, a comprehensive assessment of vascular risk factor profile seems to be justified. Migraine is also a condition where a high psychiatric comorbidity does exist. The efficacy of comprehensive approaches also including counseling for smoking cessation, promotion of lifestyle changes, and stress relief should be objectively measured and tested if not against, at least in addition to PFO closure.

Disclosures

None.

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Silvia Di Legge and Fabrizio Sallustio

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