Silent Embolism After Electrical Cardioversion of Atrial Fibrillation: What Does Brain Magnetic Resonance Imaging Provide? Response

Embolias silentes tras cardioversión eléctrica de fibrilación auricular: ¿qué aporta la resonancia magnética cerebral? Respuesta

To the Editor,

Maintaining sinus rhythm is one of the primary objectives in the treatment of atrial fibrillation. Electrical cardioversion is one of the most effective therapies for this condition. However, conversion to sinus rhythm is associated with a certain risk of embolic events, both due to the migration of pre-existing thrombi as well as their formation following recovery of atrial contraction. As such, oral anticoagulation must be administered 3-4 weeks before and 4 weeks after electrical cardioversion in patients with atrial fibrillation.

In our study[1] we sought to evaluate the phenomena surrounding clinically silent embolisms that can be detected within the first few hours of the ischemic episode using new brain magnetic resonance imaging techniques.

We performed a brain resonance before and 24 h after the cardioversion following the protocol from previously performed studies in patients undergoing atrial fibrillation ablation.[2,3]

With regards to oral anticoagulation, we strictly controlled international normalized ratio (INR) values within the therapeutic range, such that INR was measured at least every 10 days, and the procedure was only scheduled if the patient's values were within the therapeutic range. We came to the conclusion that, maintaining anticoagulation between 2 and 3, we could avoid embolic phenomena with clinical repercussions as well as silent embolisms.

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Change in Atrial Fibrillation Status, Comments to Val-FAAP Registry

El cambio de tipo de fibrilación auricular, observaciones al registro Val-FAAP

To the Editor,

We have read with interest the article by Barrios et al.[1] on management of atrial fibrillation (AF) in primary care (PC) clinics in Spain. The authors demonstrate the numerous comorbidities present in these patients as well as the room for improvement in anticoagulation therapy. We cannot but note that this study is of interest because of the large number of subjects evaluated to obtain the prevalence of AF among patients attended in PC. The result obtained was 6.1% for all patients who attended the clinic. Given the large sample size, their study population was probably a fairly representative sample for determining the real percentage for a population attended in PC.

What caught our attention was that Barrios et al.[1] report the predictors of progression to permanent AF, but their prognostic impact could not be evaluated given the cross-sectional nature of the study. Our group has, however, shown these predictors to be important in terms of morbidity and mortality (death or hospitalization) in the AFBAR study.[2] We found that a change in the type of AF during follow-up almost tripled the possibility of such an event. However, in our series, given the small number of patients with such a change, a multivariate analysis was not undertaken to determine the predictors of change in type of AF.

Likewise, we noted 2 aspects in the methods and results which we believe require further elaboration. First, given the subsequent comparisons established between the different types of patients, it is unclear what factors are associated with a switch to permanent AF: do the authors refer to those who had recent-onset AF, those with paroxysmal AF, those with persistent AF, or those who entered permanent AF? The second aspect is the period when the change takes place. Is this from the moment in which the diagnosis was made until inclusion (which, we would imagine, could be years) or from the 6 months prior to inclusion? In the AFBAR study, with a follow-up of 7 months, a change in type of AF occurred in 7% of the patients, whereas in the Val-FAAP study, it was reported in 31.6%. This leads us to think that the time considered is from when the first diagnosis of AF was made.

In addition, the article mentions the prevalence of AF in a previous study by our group, conducted in 2000.[3] That study included 6325 consecutive patients who attended a PC clinic for any reason. Of these, 3.86% were diagnosed with AF. However, we would like to take this opportunity to update this information with data obtained from when the AFBAR[2] registry was compiled in 2008. Thirty-five PC physicians in northeast Galicia, catering to a population of 44 973 patients aged over 18 years, participated in the registry. The number of patients identified with diagnosis of AF was 1045, that is, a prevalence of 2.32% for the overall population aged over 18 years. This figure has not been published previously and, although it might not be fully representative of the Spanish population, it seems more reliable as it refers to the overall population and not only those who attend the clinic for some complaint.

We believe that studies such as this one[1] or that of Riesgo et al.[4] are a good opportunity to collect data pertaining to such a common

condition in PC clinics and one that is associated with a high morbidity and mortality. The more we know the better.

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Change in Atrial Fibrillation Status, Comments to Val-FAAP Registry. Response

El cambio de tipo de fibrilación auricular, observaciones al registro Val-FAAP. Respuesta

To the Editor,

First of all, we would like to thank Vidal-Pérez et al. for their interest in the Val-FAAP study and its results. Part of the Val-FAAP study consisted in analyzing the clinical profile of patients in whom atrial fibrillation (AF) had become permanent compared to those in which it had not.[1] Those who progressed to permanent AF were older and had more comorbidities. Due to the cross-sectional study design, it was not possible to assess the prognostic impact of the transition to permanent AF. The AFBAR study provided evidence that change in AF status increased the likelihood of death or hospitalization almost threefold.[2] However, so did heart disease and left ventricular dysfunction. In light of these data, the question arises whether the change to permanent AF was an independent predictor of cardiovascular events or whether it was simply more common in patients with underlying heart disease, i.e. patients in whom mortality is already higher.

As regards the Val-FAAP methodology, when we compared the clinical profile of patients who transitioned to permanent AF, we took into account all patients who had evolved to that state, regardless of whether their AF had only started recently, or whether it was paroxysmal or persistent. When assessing change in AF status, we took into account both the type of AF recorded when the patient first presented with a diagnosis of AF (data were collected from medical records), as well as the type of AF at the time of data collection. The discrepancy in the percentage of patients transitioning to permanent AF compared to the AFBAR study is probably due to the longer period between the initial diagnosis of AF and the time of data collection in the Val-FAAP, although we did not quantify the length of time.

When determining the prevalence of a particular disease, great care needs to be taken with methodological aspects. The study, for example, should be carried out in a representative sample of the population. However, the majority of published studies are carried out in clinicians' offices and cannot therefore be considered population studies. We were surprised that the AFBAR researchers considered their methodology to be more appropriate for estimating the prevalence of the disease. In this type of study, choosing the sample is very important, as it must be representative of the population of interest. Obviously, the larger the sample, the lower the probability of a selection bias. A total of 119 526 patients were included in the Val-FAAP study, and represented the entire Spanish population.[1] With smaller sample sizes, the possibility of bias increases, and even more so if the sample is limited to a specific geographic area as it is then difficult to generalize the results to populations in other areas. Another notable feature of AF is that a significant percentage of cases are asymptomatic or "silent", and therefore cannot be detected. That is important because of the clinical implications of subclinical AF.[3] By only taking into account patients with a known diagnosis of AF, rather than attempting, as in the Val-FAAP study, to detect the arrhythmia in the whole population included, we will undoubtedly underestimate the percentage of patients with AF. For all those reasons, and despite the fact that the data were collected from individuals attending primary care centers, we believe the results of the Val-FAAP study provide a better picture of the larger reality in Spain than data obtained in studies conducted in specific regions; the Val-FAAP data also allow us to better estimate the prevalence of AF in Spain.

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