EDITORIAL

Predicting adverse events in patients with atrial fibrillation in the emergency department: new hope in meeting an old responsibility

Predecir en urgencias eventos adversos en pacientes con fibrilación auricular: una nueva esperanza para una vieja responsabilidad

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Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in the world, with a high associated morbidity and mortality. Its prevalence in the adult population is around 24%, and is expected to increase progressively due to the aging of the population and the active search for its diagnosis. In recent years, its diagnosis has been boosted by the use of smartphones, bracelets and smartwatches in patients without symptoms[1].

Symptoms are what cause patients to visit the hospital emergency department (ED). These symptoms are easily identifiable by the patient, who will explain palpitations, chest pain or sensation of dyspnea in most cases. In these patients the ultimate goal will be symptom control, which is achieved in the ED in most cases without requiring hospital admission and with the patient being discharged directly from the ED[2]. Emergency physicians may think of AF as a simple arrhythmia to manage, but nothing could be further from the truth. In these patients, different actions must be considered that are structured along 3 axes: rhythm control, rate control and assessment of thrombotic risk. Deciding whether to control the rhythm or heart rate (HR) depends on different circumstances: firstly, on the hemodynamic situation, but then on others such as the HR itself, the presence of symptoms, the duration of the episode, in patients receiving anticoagulant treatment, whether this is correct, etc. The use and indications of the different antiarrhythmic drugs and synchronous electrical cardioversion must be known[3-5]. The thrombotic and hemorrhagic risk must be calculated to decide whether the patient is a candidate for chronic anticoagulant treatment. A diagnostic approach to the underlying causes should be made, looking for modifiable factors that may contribute to the development and progression of AF[1,6]. The dose of antiarrhythmic drugs should be appropriately labelled at discharge for correct HF or rhythm control. A decision must be made as to whether a referral to the arrhythmia unit should be made to assess ablation[1].

Apart from all this complexity in ED decision making, emergency physicians are also responsible for the safe discharge of the patient which means that the risk of adverse effects derived from AF after discharge from the ED must be assessed. One of the variables that significantly affects the quality of life of these patients is the persistence of symptoms due to poor control of HF. The number of ED visits within 30 days for AF-related reasons can be as high as 8%, and is almost always due to the reappearance of symptoms[2,7-9]. The occurrence of cardiovascular events associated with the presence of AF is also important; up to 5% of patients/year present with stroke, acute coronary syndrome (ACS), heart failure (HF) or cardiovascular death despite following the published recommendations[10]. In this regard, the creation of predictive scales that help us to identify patients with a greater likelihood of presenting events after a visit to the emergency department for an episode of AF plays an important role. These tools provide an objective assessment of the risk posed to the patient by the AF episode.

In this issue of EMERGENCIAS, Valle Alonso et al. present the CoSTuM scale, designed and validated to predict the risk of adverse events 90 days after discharge from the emergency department in patients with AF[11]. There are other predictive scales for adverse events in patients with AF and the authors analyze them in the discussion section along with a correct assessment of their scale. The CoSTuM scale offers good predictive ability and is of particular interest because the adverse events analyzed were broad, including new hospital admission, cardiovascular complications (including cardiovascular death), and death from noncardiovascular causes; and it is based on clinical variables that are easy to collect. In their research work, it should be noted that the presence of any adverse event at 90 days was high (25.6%), almost all of them related to the occurrence of cardiovascular complications. The most frequent was poor control of HF (8.4%), followed by the presence of HF (7.4%) and cardiovascular death (4.2%). The main causes of cardiovascular death were HF (43.3%), ACS (26.7%), and ischemic stroke or tran-

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sient ischemic attack (20%). The authors conclude that the CoSTuM scale could help to identify patients at greatest risk and to make clinical decisions.

It is in this final remark that the use of the CoSTuM scale offers us an opportunity for improvement. To develop this opportunity, I want to bring up the results of the important clinical trial EAST-AFNET 4[12]. This trial enrolled 2,789 adult AF patients of less than 1 year in duration and compared 2 double-blind randomized treatment groups. One group of 1,395 patients had early rhythm control with antiarrhythmic drugs or AF ablation after randomization, and the other group of 1,394 patients had treatment as usual for the control of AF-related symptoms. The primary outcome was the combined event of death from cardiovascular causes, stroke, or hospitalization with worsening HF or ACS. The trial was stopped because of greater efficacy in the early rhythm control group, with a hazard ratio of 0.79 (96% confidence interval of 0.66 to 0.94). As the reader will observe, the primary outcome of this clinical trial was very similar to the adverse events collected on the CoSTuM scale. In this sense, a high score on the CoSTuM scale (≥ 8 points) classifies patients as high risk and could identify patients who may benefit from early rhythm control management and therefore referral to an arrhythmia unit for closer follow-up. This is an interesting hypothesis to investigate in the ED setting, where there is frequent management of acute-onset AF and where we still lack solid scientific evidence. AF research is still going to continue to surprise us.

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