

## Comments on Long-term Results of Cryoballoon Ablation in the Treatment of Atrial Fibrillation in a Low-volume Center



### Comentario a resultados a largo plazo de la crioablación con balón para el tratamiento de la fibrilación auricular en un centro de bajo volumen

#### To the Editor,

We have read with interest the report by Martí-Almor et al,<sup>1</sup> who describe the results of their learning curve in the performance of atrial fibrillation (AF) ablation using a cryoballoon in 63 patients. We wish to congratulate the authors, as we consider that their study reflects the difficulties posed by the successful introduction of a complex program like AF ablation. However, we feel that these results should be put into perspective and be understood in the context of a small, local series, and thus should not be generalized. Since electrical pulmonary vein isolation was established as the cornerstone of the invasive treatment of AF, a number of different catheters have been developed for the purpose of simplifying a complex technique that requires time and specific training to achieve acceptable outcomes and complication rates. Cryoballoon ablation pursues this aim, presumably with a short learning curve and few complications. Thus, it is highly attractive to centers that commence AF ablation, and even for interventional cardiologists with no training in electrophysiology. It has been shown that successful AF ablation does not depend only on the experience of the operator, but also on the population undergoing the procedure, the definition of success applied (more or less restrictive), and the intensity of the follow-up for AF documentation (from clinical follow-up to implantable devices). In a series of 605 patients with paroxysmal AF in a single center with great experience in cryoablation, Vogt et al<sup>2</sup> reported a success rate of 61.6% and required 2 catheters (23-mm and 28-mm balloons) in 47.7% cases. In the STOP AF trial,<sup>3</sup> the success rate was similar to that reported by Martí-Almor et al, but 5% of the patients required a second balloon for the closure of tears and 19% early repeat cryoablation. Finally, the COR trial,<sup>4</sup> in which the procedure was limited to two 300-second applications in each pulmonary vein, achieved immediate bidirectional block in only 83% of the veins and the final success rate was 48%. All these reports reflect the fact that it is not as "simple" to achieve acceptable results with the cryoballoon technique as it may seem *a priori*. The discrepancy between the findings of Martí-Almor et al and those in other larger series may be due to the definition of success (not specified in this report) and the intensity of the follow-up. In a series of patients subjected to radiofrequency AF ablation and followed using an insertable cardiac monitor 3 months prior to and 1 year after ablation,<sup>5</sup> we observed that, due to the clustering of AF episodes, many patients

have a low arrhythmia burden even before undergoing the procedure. This circumstance, together with the increase in asymptomatic episodes following ablation, may lead to an overestimation of the success rate. On the other hand, the incidence of complications associated with the learning curve is considerable.<sup>6</sup> Although atrioesophageal fistula is a fatal –but incidental– development, phrenic nerve paralysis, stroke, and hemoptysis are also major complications, even when they do not leave sequelae.

We agree on the need to continue making efforts to simplify a complex procedure. However, an incorrect interpretation of the results reported in this study could convey a false idea about the efficacy and lack of consequences of cryoablation in the treatment of AF.

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## Comments on Long-term Results of Cryoballoon Ablation in the Treatment of Atrial Fibrillation in a Low-volume Center. Response



### Comentario a resultados a largo plazo de la crioablación con balón para el tratamiento de la fibrilación auricular en un centro de bajo volumen. Respuesta

#### To the Editor,

We were pleased to read the Letter to the Editor about our series on cryoballoon ablation (CA) for atrial fibrillation (AF) at a low-volume hospital.<sup>1</sup> In the current economic crisis, health managers

are debating the advisability of pooling resources and restricting diagnostic or therapeutic procedures (including complex ablations) to centers of excellence. An additional factor in this debate is the fact that 80% of arrhythmia units perform fewer than 50 ablations for AF annually; but how do their results compare to the success rates of high-volume centers?

We selected candidates without heart disease and with highly symptomatic and refractory AF because they would be most likely to show a clinical and electrophysiological response to ablation. In our opinion, the good results for acute efficacy observed in our series are more related to these very strict selection criteria than to any incorrect assessment of pulmonary vein isolation or incomplete follow-up, which included 24-hour Holter monitoring 4 times