



## EDITORIAL COMMENT

## Simplifying atrial fibrillation ablation, part of the equation to amplify rhythm control accessibility

## Simplificando a ablação da fibrilhação auricular, parte da equação para ampliar a acessibilidade ao controlo do ritmo

Francisco Moscoso Costa

Hospital de Santa Cruz, CHLO, Lisboa, Portugal

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The incidence of atrial fibrillation (AF) will rise in the coming years, mostly due to the aging population and related risk factors. This will significantly increase its social, economic, and healthcare burden among western countries.<sup>1</sup> Contemporary AF management comprises three main pillars: stroke prevention, addressing comorbidities and rhythm control strategies. These include interventions such as atrial fibrillation ablation, currently indicated to improve quality of life and, in patients with plausible tachycardiomyopathy, to reduce hospitalization and improve survival.<sup>2</sup>

In Portugal, the number of AF patients referred for ablation has been increasing consistently<sup>3</sup> but is still below the average European ratio of interventions per million inhabitants.<sup>4</sup> A recent Portuguese registry of AF patients in a primary care setting highlighted that rhythm control is only considered in a minority of patients and that the most prescribed antiarrhythmic drug was amiodarone.<sup>5</sup> Considering recent data on the added value of early rhythm control,<sup>6</sup> there is a clear need for improvement, both by promoting better usage of antiarrhythmic drugs and, when appropriate, by referral for AF ablation in a timely manner. To achieve this, AF management must be integrated, refer-

ral pathways must be optimized, and electrophysiology (EP) labs need to adapt to deal with the increase in workload while maintaining safety and cost efficiency.

Over the years, cumulative experience plus technological advances such as mapping systems, contact force catheters and single shot devices, have transformed a once long and technically challenging procedure into a more predictable, faster, safer, and more effective one.<sup>7</sup> This evolution plays a key role in safely amplifying the number of ablations per center, optimizing EP lab efficiency and addressing the continuous and increasing demand.

In this issue of the Journal, Cunha et al. describe a national, retrospective, four center cohort of 406 patients mostly with paroxysmal AF who underwent pulmonary vein isolation (PVI) using the Arctic Front™ Advance Pro 28mm Cryoballoon (Medtronic Inc, Minneapolis, MN). The scarcity of national data on this single shot device adds to the relevancy of the paper.

The authors describe a mean procedure time of 107.7±50.9 minutes, and a fluoroscopy time of 19.5±9.7 minutes. This is to be expected and in line with published cohorts.<sup>8</sup> The simplicity of this single shot device allows for a relatively fast procedure without the need for a mapping system and might be a valuable tool for EP lab optimization. Nevertheless, it is worth discussing that the fluoroscopy time is higher when compared to PVI performed with mapping

E-mail address: [fmoscosocosta@gmail.com](mailto:fmoscosocosta@gmail.com)

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systems and contact force catheters.<sup>9</sup> The implications of these findings, for patients, physicians and other health professionals should not be underestimated, especially with increasing number of procedures in the EP labs.

In an average follow up of  $22.0 \pm 15.0$  months, recurrence rates were 20.5% for paroxysmal AF and 37.8% for persistent AF. These results are aligned with the literature considering PVI only as standard of care. Also, left atrium volume, an established predictor of AF recurrence after PVI,<sup>10</sup> was validated in this cohort, highlighting the relevance of the atrium substrate on AF and its implications for disease management. The inability to target non pulmonary vein triggers or left atrium substrate besides PVI is a known limitation of cryoballoon technique that may gain relevance especially when addressing patients with persistent AF.<sup>11</sup>

When interpreting AF recurrence, it is relevant to consider that the traditional and most frequently used binary (yes/no) classification for recurrence does not enable the reduction in AF burden to be assessed. This may underestimate the real benefit of ablation since even patients with recurrence may have less frequent episodes and improved quality of life, and thus still benefit from the treatment.<sup>12</sup> This rationale should be considered during clinical practice both when referring for ablation and during follow up after the procedure.

Perhaps one of the most important findings is the reported rate of severe and life-threatening complications that is low and comparable to the most recent clinical trials.<sup>6</sup> The rate of tamponade and vascular complications is <1%, and there were no cases of procedure-related death or stroke. If we consider that most phrenic nerve palsies were in fact transient, the described rate of complications reinforces that in the real world PVI is relatively safe when performed at experienced centers.

Finally, the authors acknowledge one main limitation of this study, that it is retrospective and does not have a clearly defined selection criteria for cryoballoon vs. traditional point-by-point radiofrequency. Indeed, the 406 included patients account for around 25% of the total AF ablations performed during the study period and, besides the usual reasons for not using a single shot device, for instance, prior flutter documentation and need to perform linear lesions, selection bias cannot be excluded.

Electrophysiology labs have been the stage for a technological revolution that has transformed our clinical practice enabling us to treat an increasing number of patients effectively. Currently, the gap is not technological but organizational using, it is time to take a step further, aiming for integrated AF management, enabling general accessibility to standard of care and, when appropriate, to a safe rhythm control strategy.

## Conflicts of interest

The author has no conflicts of interest to declare.

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