

## First Joint Catheter Ablation Registry: A Critical Perspective

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The publication of the Catheter Ablation Registry in 2011 provided the medical community with a unique insight into the current national state of cardiac ablation. (1) In this issue of the Journal, Gant Lopez et al extend those findings with an updated version of the registry. (2) Importantly, due in part to the collaborative efforts of the two Argentine Societies of Cardiology, the authors have been able to nearly double the number of procedures as compared to the first registry. The registry now includes 30 participating centers which greatly improves its value and relevance to Argentine cardiologists.

In comparison to the first registry, the overall success rates remain high (93.8%) while the number of complications has declined significantly to 2.2%, in agreement with other international registries. (3)

### ABLATION SUBSTRATES DISTRIBUTION

As expected, common arrhythmias are more frequently represented in the registry, and ablation for AV nodal re-entrant tachycardia (AVNRT) is the most commonly performed procedure. However, the proportion of ablations for AVNRT has declined since the first registry, showing that ablations for other conditions, most notably atrial fibrillation, are increasing. The success rates for the most common ablations are excellent and the complication rates are low. These results are in keeping with other published results and suggest that referring physicians can expect good outcomes in a significant majority of their patients undergoing ablation for AVNRT, WPW and CTI-dependent atrial flutter.

### PULMONARY VEIN ISOLATION RESULTS

Similarly to worldwide trends, pulmonary vein isolation procedures for atrial fibrillation have increased in Argentina and are now the fourth most common substrate for ablation. It is expected that these numbers will continue to increase over time. While very good "acute success" rates are reported, it is difficult to know how well this translates into longer term freedom from episodes of atrial fibrillation. This is explained by the multiple pathophysiological mechanisms involved (4) and continuous improvements in the technique that demonstrate better outcomes.(5)

Indeed, we believe that this part of the registry could be significantly strengthened with modifications.

First, we would suggest that longer term results be reported, such as 1 year freedom from episodes of atrial fibrillation. Second, it is important to report recurrence rates after atrial fibrillation ablations as well as how many procedures patients undergo in order to treat their atrial fibrillation. Prior reports from experienced centers have shown that long term success from recurrent atrial fibrillation after a single procedure is uncommon and that many patients require at least 2 procedures to attain longer term control of their arrhythmia. (6) Results from prospective registries appear to be worse. (7) Finally, the registry should develop strict definition for atrial fibrillation ablation outcomes so that the results presented do not vary by operator definition. (8) We believe that by reporting clinical outcomes in addition to procedural outcomes, the referring cardiologist and patients will have much more realistic expectations regarding the outcomes of pulmonary vein isolation procedures for atrial fibrillation.

### VT ABLATION SUCCESS

The registry reports very good success rates in a small number of patients in whom ablation for ventricular tachycardia was attempted. These rates are significantly better than those seen in other publications and may be indicative of careful patient selection for ablation attempts. (9) Success rates will likely become similar to those in other reports as the procedure gains more widespread use in Argentina.

### ISSUES AROUND HUMAN RESOURCES AND INSTITUTIONAL CASE VOLUMES

The authors report that 1500 cases were performed across 24 centers. Although higher volume centers may have satisfactory case volumes, there appears to be a significant number of sites performing unacceptably low volumes of ablation cases. While individual electrophysiologists may be performing acceptable numbers of ablations it is usually the institutional procedural volume the one that is correlated with better outcomes. (10) This will likely become more important as the proportion of complex ablations increases and

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the role of a well-functioning team becomes an important determinant of case outcome. Going forward, doing more cases in fewer institutions so that acceptable minimum volumes are done in each electrophysiology laboratory may be a preferable strategy and lead to enhanced outcomes in the future.

#### LIMITATIONS OF THE REGISTRY

As it is currently set up, the participation in the registry is voluntary. Moreover, it is not known whether or not all cases at all participating sites are being entered into the registry. This raises the possibility that selection bias in reporting could be influencing some of the results. While ideally all cases should be reported, this may not always be feasible. However, the participating sites should be able to provide the registry with the total number of ablations performed at their centers so that at least the proportion of ablations which end up in the registry is known.

The registry would also be strengthened if its participants developed standard definitions for the outcomes and all centers adhered to those standards in reporting both success rates and the incidence of complications.

Despite these limitations the publication of this current update of the Catheter Ablation registry is a testament to the collaboration amongst Argentine electrophysiologists and their desire to improve their catheter ablation outcomes. This ongoing work will be of considerable value to electrophysiologists, cardiologists and ultimately to patients undergoing catheter ablation to control rhythm.

#### Conflicts of interest

None declared

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