

Catheter ablation in atrial fibrillation: comorbidities and mortality from high-volume centers

J. Sousa¹, J. Carmo², D. Matos², G. Rodrigues², A. Ferreira², J. Alencar², F. Klemtz², A. Durazzo², S. Carvalho², F.M. Costa², P. Carmo², L. Parreira³, F. Morgado², D. Cavaco², P. Adragao²

¹Hospital Dr. Nelio Mendonca, Funchal, Portugal; ²Hospital de Santa Cruz, Cardiology, Lisbon, Portugal; ³Hospital da Luz, SA, Cardiology, Lisbon, Portugal

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Background: Catheter ablation (CA), has gained wider acceptance as an attractive option for treating symptomatic AF. Although traditionally seen as a safe procedure, there is limited and conflicting data on procedure-related early morbimortality, with new evidence suggesting early mortality may be as high as 0.5%-1%.

Purpose: We aimed to assess the rates of early and late morbimortality of post-atrial fibrillation (AF) ablation in high-volume centers.

Methods: Prospective registry of 2 high-volume ablation centers, comprising 3722 consecutive patients (mean age 61.1±11.2, 66.4% male, n=2471), who underwent AF ablation from 2005 to 2019. Early mortality was defined as death during initial admission or during the first 45 days after ablation. Median follow-up time was 5.4 years.

Results: Most patients were treated with radiofrequency (97%) while 3% were treated with cryoablation. Early mortality was 0.08% (n=3), with a median time from ablation to death of 22 days. Cumulative mortality at 3,

6 and 12 months was 0.08%, 0.16% and 0.19%, respectively. At 3 and 5 years, mortality remained low at 0.48% and 0.73%, respectively. Early mortality was higher among patients who had suffered procedural complications (fistula and stroke, p<0.001). Among the latter, pericardial effusion and tamponade were the most frequently found (0.6%, n=24), only 1 of which required emergent surgical drainage and myocardial repair. Early ischemic stroke occurred in 2 patients (0.1%). Other less frequent complications were atrio-esophageal fistula (0.1%, n=2), phrenic nerve palsy (0.1%, n=2), anoxic encephalopathy following cardiac arrest (0.03%, n=1) and pulmonary vein stenosis (0.03%, n=1).

Conclusion: Early mortality following ablation is very low (<0.1%), when performed by an experienced high-volume team. Severe complications are rare (<1%) and mostly amenable to treatment. Our findings reaffirm the overall safety of AF ablation.

| Baseline characteristics of our population | | | |
|--|---------------|------------------------------------|----------|
| Hospital A | 52.8% (1964) | Diabetes | 9.5% |
| Hospital B | 47.2% (1759) | Obesity (BMI>30Kg/m ²) | 23.8% |
| Radiofrequency | 97% | mean CHADSVASC | 1.49±1.1 |
| Cryoablation | 3% | previous Stroke | 3.6% |
| Previous ablation/redo | 18.2% | previous CAD | 5.2% |
| Age, years | 61±11 | OAC | 65.2% |
| Gender (M/F) | (66.4%/33.6%) | Antiarrhythmics | 43.9% |
| BMI (Kg/m ²) | 27.6±4.3 | Hypertension | 50% |
| Smoking habits | 17.3% | | |

Early mortality and cumulative mortality



AF catheter ablation morbimort