Long-term risk of major cardiovascular events after cavotricuspid isthmus ablation: when and in whom to discontinue oral anticoagulation?

Graca Rodrigues TE.; Brito J.; Silverio-Antonio P.; Couto Pereira P.; Valente Silva B.; Alves Da Silva P.; Cunha N.; Nunes-Ferreira A.; Ribeiro J.; Lima Da Silva G.; Carpinteiro L.; Cortez-Dias N.; Pinto FJ.; Sousa J.

Santa Maria University Hospital/CHULN, CAML, CCUL, Lisbon School of Medicine, Universidade de Lisboa, Cardiology Department, Lisbon, Portugal

Funding Acknowledgements: Type of funding sources: None.

Introduction: Cavotricuspid isthmus ablation (CTA) is the 1st line therapy to accomplish rhythm control in typical atrial flutter (AFL). Several studies have shown that AFL is frequently associated with AF, which may be silent, posing the patient at risk of systemic embolism. Nowadays, there are no formal recommendations for OAC after CTA in patients with isolated AFL.

Aim: To determine the risk of MACE after CTA and compare: 1) the presence of concomitant AF, 2) concomitantly performing PVI and 3) persistence on OAC.

Methods: Single-center retrospective study of pts submitted to CTA between 2015 and 2019, comprising 3 groups: I – pts with lone AFL; II – patients with AFL and prior AF submitted to CTA only; and III – patients with AFL and prior AF submitted to PVI and CTA. Clinical records were analyzed to determine the occurrence of MACE - death (of CV or unknown cause), stroke, clinically relevant bleed or hospitalization due to HF or arrhythmic events. Long-term OAC was defined as its persistence over 18 months after CTA. Kaplan Meier survival curves were used to estimate the risk of events and the groups were compared using uni- and multivariate Cox regression analyses.

Results: A total of 476 pts (66 ± 12 years, 80% males) underwent CTA: group I – 284 pts (60%), II – 109 pts (23%) and III – 83 pts (17%). Baseline characteristics were similar between groups, except for age with group I pts being older (68 ± 12, 67 ± 11, 61 ± 11, $p < 0.03$). The mean baseline CHA2DS2VASc was 2.3 ± 1.5 and the median post-CTA follow-up was 2.8 year. The 1-, 3- and 5-years MACE risk was 7%, 21% and 32%, respectively and did not differ significantly between groups. OAC was suspended on the long-term in 105 pts (23%), at a mean of 241 days post-CTA. Suspension of OAC was significantly associated with lower MACE risk (HR: 0.26, 95%CI 0.12-0.56, $p = 0.001$). This effect was independent of the age and CHA2DS2VASc. The prognostic benefit of OAC suspension was driven by the group I and was not verified in patients with concomitant AF. In group I, withdraw of OAC (56 pts - 27%) was associated with a 70% relative risk reduction in the 5-year MACE risk (16% vs 43%, HR: 0.30, 95%CI 0.13-0.69, $p = 0.005$). In group I, OAC was suspended in patient who were younger (65 ± 11 vs. 69 ± 12, $p = 0.002$), had lower CHA2DS2VASc (1.9 ± 1.6 vs. 2.7 ± 1.4, $p < 0.001$) and less often had cerebral vascular disease (1% vs. 8%, $p = 0.036$), HF (14% vs. 38%, $p = 0.001$), ischemic cardiomyopathy (9% vs. 19%, $p = 0.04$) and HTN(61% vs. 75%, $p = 0.019$).

Conclusions: In pts with AFL submitted to CTA, the long-term risk of MACE is frighteningly high, even in the ones without prior documentation of concomitant AF. Pts with prior AF presenting at the electrophysiological procedure in typical AFL and submitted just to CTA were not significantly harmed, from a prognostic perspective. In pts with lone AFL submitted to successful CTA, it may be reasonable to suspend OAC within 18 months provided that the concomitant AF is carefully excluded.

Abstract Figure.