CATHETERABLATION FOR ATRIALARRHYTHMIASRAPIDLYIMPROVESTHROMBOTIC PROFILEOVER AND ABOVE THERAPEUTIC ANTICOAGULATION

Poster Contributions
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Background: Atrial arrhythmias are associated with a well-documented risk of insitu thrombosis and embolism. Mechanical reasons including reduced atrial contractility and stagnation may contribute, alongside a possible prothrombotic state. Although anticoagulants reduce thromboembolic risk, patients remain at elevated risk compared to those without arrhythmia.

Methods: A total of 46 patients were recruited to assess the effects of arrhythmias and its ablation on thrombotic status. 31 patients had atrial arrhythmias including typical flutter, atypical atrial tachycardias and atrial fibrillation. The Global Thrombosis Test (GTT), an automated point-of-care test, utilizing 3 ml venous blood, was used to assess the time taken to form an occlusive thrombus under high shear stress (occlusion time, OT), and then evaluates the time required to restore flow by endogenous thrombolysis (lysis time, LT). Blood samples taken from the femoral sheath, right atrium, and left atrium (when transeptal puncture was performed) at baseline and at the end of ablation, and a peripheral venous sample was also taken at 6 weeks’ follow up, were assessed with the GTT.

Results: No differences were observed in thrombotic status (OT or LT) at baseline between different sampling sites. Ablation resulted in no measurable changes in thrombotic state during the procedure. There were no baseline differences between patients presenting for ablation in sinus rhythm vs. patients presenting in persistent atrial arrhythmias. However, patients with persistent arrhythmia at baseline had a significantly longer OT at follow-up, following successful ablation and restoration of sinus rhythm (482±59 vs. 576±97, p= 0.027), despite similar INR (2.5±0.6 vs. 2.3±0.4, p=NS). Patients with spontaneous echo contrast on TEE (n=3) showed a trend towards prolonged LT at baseline compared to those without (n=23) (3569±2105 vs. 2055±1872 sec, p=0.05), despite a trend towards a higher INR (2.8 vs. 2.2, p=0.06).

Conclusions: Atrial arrhythmias are associated with a systemic prothrombotic state that is measurable despite therapeutic anticoagulation with warfarin and is corrected by successful ablation.