FEASIBILITY AND OUTCOMES OF PERCUTANEOUS CLOSED CHEST MAZE PROCEDURE IN PATIENTS WITH ATRIAL FIBRILLATION

Poster Contributions
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Background: Surgical Maze procedure in pts with atrial fibrillation (AF) has been shown to have the highest long-term success in maintaining sinus rhythm. We have recently described a percutaneous approach for left atrial appendage (LAA) ligation that also leads to electrical isolation of the LAA. We describe the safety and feasibility of combining percutaneous LAA ligation with catheter ablation in pts with persistent AF.

Methods: The study included 17 consecutive pts with persistent and/or chronic symptomatic drug refractory AF who were candidates for catheter ablation. Ligation of the LAA was performed using a transeptal and pericardial puncture. An endocardial magnet-tipped guidewire was placed at the apex of the LAA and the epicardial magnet-tipped guidewire was connected to the endocardial magnet tipped guidewire. The LARIAT device was advanced over the epicardial guidewire and ligation of the base of the LAA was done under TEE guidance. The first patient had left atrial ablation done at the same time as LAA ligation. The other patients had a staged procedure and were brought back one month later for left atrial ablation that included wide area ablation around the pulmonary veins with additional linear ablation in patients with chronic AF.

Result: The procedure was successfully performed in all 17 patients. The pt with concomitant LAA ligation and LA ablation was noted to have hemopericardium 2 hours after completion of the LAA ligation. A total of 250 cc of blood was removed over the course of 2 hours during the ablation procedure. The hemopericardium resolved once the ablation was completed and heparinization stopped. No periprocedure effusion, tamponade, or stroke were noted in the other pts. At 6 month f/u, 10 or 17 patients were in sinus rhythm with 2 of the 10 patients still on antiarrhythmic therapy.

Conclusion: We report the first human experience with LAA ligation and left atrial catheter ablation performed via a percutaneous approach in patients with persistent and/or chronic atrial fibrillation. The concomitant approach can be used to emulate the Maze procedure and provide long-term freedom from AF.