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Left atrial appendage occlusion using a Watchman device in a transplanted heart with biatrial anastomosis

INTRODUCTION

- ▶ Biatrial anastomosis orthotopic heart transplant (OHT) results in enlarged atria, scarred and thickened interatrial septum, and leftward rotation of the heart, thereby complicating left atrial appendage (LAA) closure.
- ▶ This report describes successful LAA occlusion in a patient with previous biatrial anastomosis OHT using the WATCHMAN™ Device and the radiofrequency (RF) **NRG™** Transseptal Needle (Baylis Medical*) for controlled crossing of the septum.

METHODS AND RESULTS

Transseptal puncture

- ▶ Transesophageal echocardiography (TEE) indicated a thickened interatrial septum from the prior biatrial anastomosis and scar tissue.
- ▶ Site-specific transseptal puncture in the inferio-posterior location of the fossa ovalis was achieved using the **NRG™** Needle with minimal additional force.

LAA occlusion

- ▶ Standard TEE views (0°, 45°, 90°, and 135°) were adjusted by 10–20° to account for the effects of biatrial anastomosis and replicate the desired LAA ostial views for appropriate device sizing.
- ▶ Successful deployment of a 21 mm WATCHMAN™ Device into the LAA was achieved with no complications.
- ▶ 45 days post-operative TEE indicated no thrombus formation or residual flow in the LAA.
- ▶ Anticoagulation was administered for 45 days, while antiplatelet therapy was continued for six months post-procedure, respectively.

DISCUSSION AND CONCLUSIONS

- ▶ Changes in atrial morphology and leftward rotation of the heart, such as those seen in this patient with biatrial anastomosis OHT, can make standard WATCHMAN™ implantation difficult.
- ▶ Site-specific transseptal puncture and firm engagement of the interatrial septum can be complicated by scarring and thickening of the septum, and may result in accidental puncture and perforation.
- ▶ Additional balloon dilation of the septum may be required to advance the large LAA occluder sheath into the left atrium.
- ▶ The **NRG™** Transseptal Needle was used to provide controlled site-specific crossing of the interatrial septum without complications.
- ▶ Using a radiofrequency needle can enable simpler and safer access to the left atrium, without requiring extra force application.
- ▶ LAA occlusion using the WATCHMAN™ Device in a patient with prior biatrial anastomosis OHT can be safely and successfully performed using the described procedural modifications.

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