SEPTAL COILING FOR HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY

ACC Moderated Poster Contributions
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Objective: To evaluate the safety and efficacy of septal artery coiling as a therapy for hypertrophic obstructive cardiomyopathy (HOCM).

Background: In HOCM patients who are unresponsive to medical therapy and not candidates for surgical myomectomy, alcohol septal ablation (ASA) has been the standard therapy for septal reduction. However, due to the unpredictable diffusion of ethanol within the coronary capillary bed, the complication rate of ASA may be high, with up to 30% of patients requiring permanent pacing due to conduction system injury. Recently, septal artery coil embolization has been proposed as an alternative method of septal myocardial reduction.

Methods: Fifteen patients with HOCM underwent a total of 17 septal artery coiling procedures over a six year period. Prior to septal coil embolization, left ventricular outflow tract (LVOT) gradients were measured at rest and with valsalva both by echo and catheterization. Following coil embolization, the immediate post-coiling LVOT gradient was measured at catheterization and then followed non-invasively by echo over a period ranging from 1 to 36 months.

Results: Pre-coiling, the mean septal thickness by echo measured 18.5 mm with a mean resting LVOT gradient of 67 mmHg and a mean LVOT gradient with valsalva of 108 mmHg. An average of 3 coils were placed per procedure (minimum 2, maximum 6). The mean creatine kinase post-coiling measured 325 u/L. On late echocardiographic follow-up, which ranged from 1-36 months, the mean septal thickness declined to 16.5 mm with the mean resting LVOT gradient decreasing to 16 mmHg and the mean LVOT gradient with valsalva decreasing to 30 mmHg. No new conduction abnormalities were noted by ECG and no patient required permanent pacing.

Conclusion: Septal artery coil embolization may constitute a safe and effective alternative to alcohol septal ablation for the non-surgical treatment of hypertrophic obstructive cardiomyopathy. Further long-term follow-up is necessary to determine to durability of LVOT gradient reduction.