LONG-TERM EXPERIENCE WITH VASCULAR BRACHYTHERAPY FOR THE TREATMENT OF REFRACTORY DRUG-ELUTING STENT FAILURE

Poster Contributions
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Background: Drug-eluting stent (DES) failure treatment remains challenging and associated with high recurrence rate when treated with balloon angioplasty (POBA) or additional DES. Vascular brachytherapy (VBT) has been used for treatment of DES in-stent restenosis (ISR), but long-term data is limited. This study aimed to report determinants and long-term outcome of ISR-DES treated with VBT.

Methods: Patients undergoing VBT for ISR-DES were enrolled from an ongoing registry. Demographic, procedural, and outcomes data up to 3 years were collected.

Results: Cohort included 162 patients with ISR-DES who were treated with VBT between 2003-08. The mean age was 63±12 years; 62% were male; and 53% had previous bypass grafting. 82% of patients had > 2 ISR-DES at same site prior to VBT, and mean time to failure from last DES was 101±80 days. Target ISR lesion distribution was: RCA 32%, LAD 25%, LCX 23%, and SVG 16%. 9% of patients presented with acute myocardial infarction, and 62% presented with unstable angina. All patients were treated with POBA and VBT using Beta-Cath with Sr/Y90 source and prescribed dose of 23/25 Gy at 2 mm from source center. VBT for DES-ISR was associated with high procedural success (100%) and low rate of early adverse outcomes up to 1 year. However, a time-dependent decline in stent patency was seen during 3-year follow-up. (Table)

Conclusion: VBT for refractory DES-ISR should be considered as standard of care. However, attrition in outcome is expected at 3 years in this challenging subset of patients.

![Time dependent outcomes with vascular brachytherapy in drug-eluting stent failure](image)