Background: Peri-procedural Creatinine Kinase (CKMB) after PCI was reported to be associated with increased mortality. However its impact on patients treated with in-stent restenosis (ISR) and intracoronary radiation therapy (IRT) is unknown. Methods: We evaluated 1168 patients who were enrolled in radiation trials for ISR using gamma and beta emitters. Patients were analyzed according to the degree of CKMB rise within 24 hours of the index IRT procedure (normal, 2-4x baseline, and >4x baseline) results (p=0.006). CKMB >4x had a higher rate of multivessel disease (41%, p=0.044), were more likely treated with stent (26%, p=0.004). The cohort with the highest CKMB rise had significantly higher rates of adverse clinical events at 6 months; including late thrombosis.

Conclusions: Post-procedural CKMB elevation is of prognostic importance in patients treated with IRT for ISR, and its analysis appears mandatory to risk stratify these patients.

6-month events

<table>
<thead>
<tr>
<th>CKMB &gt;4x</th>
<th>CKMB 2-4x</th>
<th>CKMB &lt;2x (Normal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-hospital MACE</td>
<td>11.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Death, Q-Wave MI, TLR, %</td>
<td>(N=177)</td>
<td>(N=161)</td>
</tr>
</tbody>
</table>

<0.001

Results: All 240 pts underwent successful IRT therapy. Radiation with 15 Gy reduces the recurrence of in-stent restenosis (ISR) with a higher rate of multivessel disease, CKMB >4x, p=0.006). CKMB >4x had significantly higher rates of adverse clinical events at 6 months; including late thrombosis.

Conclusions: Repeat radiation to the same site using ^90Sr for refractory ISR is safe and effective. Complete 6-month clinical and angiographic follow-up for the entire cohort will be available at presentation.

The Radiance P-32 RDX Balloon in Saphenous Vein Grafts. A Comparison of De-Novo and In-Stent Restenotic Lesions in the SVG Brite Trial


Background: Vascular brachytherapy (VBT) reduces the recurrence of in-stent restenosis (ISR). The optimal radiation dose and the anti-thrombotic regimen remain debated. Methods: 240 patients with diffuse ISR in native coronary arteries (lesion length 36-60 mm) underwent angioplasty and were enrolled in the Washington Radiation for In-Stent Restenosis Trial for long lesions (Long WRIST). Of these, 120 patients were randomized for either radiation with ^90Sr with 15 Gy at 2 mm from the source or placebo. The additional 120 patients were treated with ^192Ir with 18 Gy. Of these, the first 60 were treated with one month of Anti-Platelet Therapy (APT) while the second 60 patients of the 18 Gy group received 6 months of APT. Six months follow-up included angiography and clinical outcomes: target lesion revascularization (TLR) and major adverse cardiac events (MACE).

Results: At present, 19 pts have completed 6 months follow-up. The mean age was 65.4 ± 7.7 yrs, 69.5% male, 41.9% diabetic, and 87% had previous CABG. Lesions were in native coronary arteries (117), saphenous vein grafts (53), and 2 in the left internal mammary graft. The mean time interval between the two radiation treatments was 16.6 ± 7.6 months and the mean number of previous interventions to the target lesion was 4 ± 2.7. The utilization of devices during the intervention was balloon alone in 10, excimer laser in 6, atherectomy in 1, and restenting in 7 pts. At 30 days one patient required re-intervention. At 6 months, 5 patients had target lesion revascularization and none had an MI. Overall, 14 patients are event free. To date, there are no clinical or angiographic complications (evidence of aneurysm, fibrosis, perforation) in any of the patients. Conclusions: Repeat radiation to the same site using ^90Sr for refractory ISR is safe and effective. Complete 6-month clinical and angiographic follow-up for the entire cohort will be available at presentation.

850-6 Cumulative Effect of High Radiation Dose and Prolonged Antiplatelet Therapy in Improving Outcomes of Patients Treated With Vascular Brachytherapy

D. Pichard, Lowell F. Satler, Regina Deible, Ellen Pinnow. Joseph Lindsay, Ron Waxman, Washington Hospital Center, Washington, DC

Background: Vascular brachytherapy (VBT) reduces the recurrence of in-stent restenosis (ISR). The optimal radiation dose and the anti-thrombotic regimen remain debated. Methods: 240 patients with diffuse ISR in native coronary arteries (lesion length 36-60 mm) underwent angioplasty and were enrolled in the Washington Radiation for In-Stent Restenosis Trial for long lesions (Long WRIST). Of these, 120 patients were randomized for either radiation with ^90Sr with 15 Gy at 2 mm from the source or placebo. The additional 120 patients were treated with ^192Ir with 18 Gy. Of these, the first 60 were treated with one month of Anti-Platelet Therapy (APT) while the second 60 patients of the 18 Gy group received 6 months of APT. Six months follow-up included angiography and clinical outcomes: target lesion revascularization (TLR) and major adverse cardiac events (MACE).

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