occluded for 30-60 seconds. The measurement is the difference between these two readings. Results: Temperature measurements were made in 15 lesions from 11 patients with a mean age of 62 years, 90% male, 36% diabetes and 82% with acute coronary syndromes. Measurement were made in all three major coronary arteries. The mean temperature elevation was 0.4 (range 0-2.7°C). Five of the 15 lesions had a mean temperature elevation of 0.9°C (range 0.3-2.2) over baseline while the rest of lesions (n=10) had no temperature change from baseline. No complications were observed with its clinical application. Conclusion: A thermal sensing catheter that temporarily occludes flow during the measurement is a safe and feasible means to accurately measure lesion temperature. The system used in this trial holds promise as a new diagnostic tool to guide treatment of coronary lesions.

TO06-62  Forward Looking Optical Coherence Tomography: A Potential Tool to Visualize the Total Chronic Occlusion

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PCI of chronic total occlusion is technically challenging. The direct visualization of the occlusion could help to steer the guidewire and increase the safety and success rate of recanalization procedures. Intravascular Optical Coherence Tomography (OCT) is a new light emitting technique, which provides high resolution cross-sectional images of the vessel wall (< 15 microns). We hypothesised that OCT is suitable to give forward-looking information on vessel anatomy.

An OCT catheter (Lightlab Inc) was modified to emit near infrared (1340nm) light in an angle of 30° from the axis of the catheter. The catheter is rotating around this axis providing a cone like beam providing images of structures that are located in front of the catheter.

Forward looking OCT was performed in a cryopreserved (PVA 5%) phantom, which mimics the anatomy of an artery with a total occlusion by introducing the modified catheter into the phantom and advancing the catheter. After image acquisition the phantom was cut open and the morphology was assessed (figure 1).

It was feasible with OCT to detect the total occlusion, the geometry and the size of the phantom. The surface of the occlusion was clearly delineated. Details of the vessel mimicking phantom wall were clearly visible. Comparison with the structure of the phantom showed remarkable agreement between images and details of the vessel wall and the occlusion.

Forward looking OCT is feasible in-vitro and may provide valuable in-vivo information for recanalization of chronic total occlusions.

1024-47  Sirolimus Versus Plain Old Balloon Angioplasty Small Vessels

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Background: Results of stenting in smaller vessels compared with angioplasty alone have been variable and conflicting particularly in regards to restenosis prevention and follow-up events. The Sirolimus-eluting stent may improve the outcome in these vessels.

Purpose: In vessels <3mm to evaluate effectiveness of the Sirolimus-eluting Bx velocity stent in the randomized SIRIUS trial and compare it to patients treated in BENESTENT I + II and STRESS with conventional PTCAs.

Population: 370 lesions treated with Sirolimus-eluting stent in the SIRIUS Trial and 437 lesions treated with PTCAs alone in BENESTENT I (n=120), BENESTENT II (n=209) and STRESS (n=108). All patients had treatment of de novo lesions in vessels with RVD < 3.0mm

Results: Sirolimus stent patients were at higher risk;