The neointima reduction was uniform throughout the stent. In addition, there was no difference in the lumen loss at the margins beyond the stent edges except for a reduction of the lumen loss for the first mm at the distal edge in the TAXUS group (p=0.004). Late incomplete stent apposition only occurred in 2 control patients and 1 TAXUS patient (p=0.62).

Conclusion: The TAXUS stent decreased neointima volume uniformly throughout the stent without any negative edge effects and without any increase in late incomplete apposition.

### T101-45

**Contribution of Stent Underexpansion to Target Lesion Revascularization After Sirolimus-Eluting Stenting for In-Stent Restenosis**

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**Background:** Sirolimus-eluting stents (SES) strongly suppresses neointimal hyperplasia and prevents target lesion revascularization (TLR) in de novo lesions. However, the efficacy of SES in the treatment of in-stent restenosis (ISR) is less certain. Minimum stent area (MSA) after stenting is a predictor of TLR. We investigated the relationship between stent underexpansion and TLR after SES treatment of ISR.

**Methods:** In 40 ISR lesions treated with SES, 3-D intravascular ultrasound (IVUS) analysis was performed. Stent and reference segments were imaged every 1mm, and volumes were calculated using Simpson's rule. Stent underexpansion was defined as MSA <5.0 mm² and ><80% of the average reference lumen. A residual edge lesion was defined as neointimal volume divided by stent volume. At baseline, SES achieved stent expansion similar to MS. At the stented segment and MS were different between groups either at baseline or at follow-up. If stent was also comparable between groups at baseline. However, LV was found to be significantly larger in SES than in MS (P<0.05) and %NV was significantly lower in SES than in MS (P<0.0001, 95% reduction). There was no evidence of unhealed dissections or late stent malapposition in either group.

**Conclusion:** Sirolimus-eluting stents demonstrated marked anti-proliferative efficacy compared to MS with no evidence of IVUS-detected adverse effects.