Abstract: **P5624**

**Late acquired tissue protrusion after drug-eluting stent implantation: a serial follow-up of 1-month optical coherence tomography imaging**

**Authors:**
M Otagaki¹, KF Fujii², KM Matsumura¹, TN Noda¹, HS Shibutani², HP Park¹, YY Yamamoto¹, IS Shiojima², ¹Kansai Medical University Medical Center - Moriguchi - Japan, ²Kansai Medical University, Division of Cardiology, Department of Medicine 2 - Hirakata - Japan,

**Topic(s):** Coronary Intervention: Stents

**Citation:**

**Funding Acknowledgements:**
None

Background: Tissue protrusion (TP) between the stent struts after stent implantation has been implicated as a potential factor in the subsequent development of stent thrombosis. However, the incidence, natural history, and predictive factor of TP after stent implantation remains unclear.

**Purpose:** To elucidate the fate of TP, we undertook the study assessing TP using short term serial optical coherence tomography (OCT), immediately after deployment of stents and at 1-month follow-up.

**Methods:** This was a prospective, single-center study evaluating vascular healing responses with OCT both immediately after and at 1-month after biodegradable-polymer sirolimus-eluting stent (SES) implantation. A total of 18 stable angina patients having OCT-guided PCI with SESs underwent assessment of TP with OCT pre-procedure, post-procedure, and at 1-month follow-up. TP was defined as a tissue prolapse for more than 200 µm between stent struts that directly correlates with the underlying plaque, without abrupt transition and different optical properties. TP was classified into the following 3 groups on the basis of serial assessment: (1) healed, TP present after the procedure but covered by tissue with smooth surface at 1-month follow-up; (2) persistent, TP present both after the procedure and 1-month follow-up; and (3) late-acquired, TP not present at baseline but present at 1-month follow-up.

**Results:** Immediately after the procedure, 29 TPs in 13 patients (72%) were identified. Of those, 16 (55%) were healed and 13 (45%) were persistent at 1-month follow-up. Although the size of TP on post-procedural OCT was similar, neointimal area in lesions with healed TP was significantly larger than in lesions with persistent TP due to neointimal proliferation at 1-month follow-up. A synchronous comparison between the post-procedural OCT and the follow-up OCT image showed that 5 TPs were observed only at 1-month follow-up (late-acquired). In lesions with late-acquired TP, calcified nodule or thin-cap fibroatheroma was identified as an underlying plaque morphology on pre-procedural OCT. A representative example is presented in Figure.

**Conclusion:** Short term serial OCT analysis found that TP can occur not only immediately after SES implantation, but also 1 month after SES implantation. This new concept may provide a new insight into the mechanism of in-stent restenosis and stent thrombosis development after stent implantation.
Abstract: Late acquired tissue protrusion after drug-eluting stent implantation: a serial follow-up of 1-month optical coherence tomography imaging

Authors: M Otagaki 1, KF Fujii 2, KM Matsumura 1, TN Noda 1, HS Shibutani 2, HP Park 1, YY Yamamoto 1, IS Shiojima 1

Kansai Medical University Medical Center - Moriguchi - Japan, 2 Kansai Medical University, Division of Cardiology, Department of Medicine 2 - Hirakata - Japan,

Topic(s): Coronary Intervention: Stents

Citation: 

Funding Acknowledgements: None

Background: Tissue protrusion (TP) between the stent struts after stent implantation has been implicated as a potential factor in the subsequent development of stent thrombosis. However, the incidence, natural history, and predictive factor of TP after stent implantation remains unclear.

Purpose: To elucidate the fate of TP, we undertook the study assessing TP using short term serial optical coherence tomography (OCT), immediately after deployment of stents and at 1-month follow-up.

Methods: This was a prospective, single-center study evaluating vascular healing responses with OCT both immediately after and at 1-month after biodegradable-polymer sirolimus-eluting stent (SES) implantation. A total of 18 stable angina patients having OCT-guided PCI with SESs underw...