CORONARY PLAQUE COMPONENTS ASSESSED BY VIRTUAL HISTOLOGY-INTRAVASCULAR ULTRASOUND ARE NOT ASSOCIATED WITH NEOINTIMAL HYPERPLASIA IN PATIENTS WHO UNDERWENT DRUG-ELUTING STENT IMPLANTATION

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Background: We used virtual histology-intravascular ultrasound (VH-IVUS) to evaluate the relation between baseline plaque components and neointimal hyperplasia after drug-eluting stent (DES) implantation.

Methods: We compared the VH-IVUS parameters between 19 in-stent restenosis (ISR) lesions and 110 non-ISR lesions in 129 lesions in 102 patients who underwent DES implantation (27 sirolimus-eluting stents, 65 paclitaxel-eluting stent, 28 zotarolimus-eluting stents, and 9 other DESs). VH-IVUS classified the color-coded tissue into four major components: fibrotic (FT), fibro-fatty (FF), dense calcium (DC), and necrotic core (NC).

Results: ISR group was more diabetics (50% vs. 33%, p=0.050) and had trend towards higher high-sensitivity C-reactive protein compared with non-ISR group (2.33±6.60 mg/dl vs. 0.51±1.13 mg/dl, p=0.051). There were no significant differences in minimum lumen site external elastic membrane (13.9±3.1 mm2 vs. 14.7±5.5 mm2) and plaque plus media areas (3.9±0.7 mm2 vs. 4.0±1.4 mm2) between ISR and non-ISR groups. There were no significant differences in relative plaque components at the minimum lumen site (FT: 56.7±16.8% vs. 59.0±13.7%, FF: 6.3±5.1% vs. 11.5±9.8%, DC: 13.3±9.9% vs. 9.3±8.3%, NC: 23.7±12.9% vs. 20.1±11.9%) and relative volumetric plaque components (FT: 57.5±11.9% vs. 58.7±10.9%, FF: 10.1±6.4% vs. 12.0±8.1%, DC: 12.4±6.8% vs. 10.9±6.8%, NC: 20.3±10.6% vs. 18.5±9.4%) between ISR and non-ISR groups. There were no correlations between baseline volumetric plaque components and follow-up %neointima volume (%FT: r=-0.002, p=0.990, %FF: r=0.187, p=0.175, %DC: r=0.014, p=0.920, %NC: r=-0.123, p=0.376, respectively).

Conclusions: Baseline plaque components were not associated with neointimal hyperplasia after DES implantation.