versus 2.1 ± 0.1, p = 0.05), and for the lesions with short stent length (18.6 ± 1.6 mm versus 23.3 ± 1.4 mm, p = 0.04), with lipid-laden intima (88% versus 44%, p = 0.005), thin-cap fibroatheroma (TCFA)-like intima (75% versus 31%, p = 0.04), and intimal disruption (88% versus 27%, p < 0.01). A multiple logistic regression analysis identified intimal disruption (odds ratio: 19.40, 95% confidence interval: 1.02 to 369.02; p = 0.049) as an independent risk factor for stent thrombosis. The lesions with intimal disruption (n = 19) versus those without (n = 34) expressed a higher incidence of ST (37% versus 3%, p = 0.002), lipid-laden intima (90% versus 29%, p = 0.0001), and TCFA-like intima (84% versus 12%, p < 0.0001). Lesions with stent duration > 2 years (n = 30) versus the others (n = 23) raised the rates of cholesterol crystal (47% versus 10%, p = 0.0001), calcified neointima (47% versus 4%, p = 0.0007), lipid-laden intima (83% versus 9%, p = 0.0001), TCFA-like intima (60% versus 9%, p = 0.0001), and intimal disruption (50% versus 17%, p = 0.01).

Conclusion: Long stent duration leads neointima to be athereosclerotic and disrupted after bare-metal stenting. Late stent thrombosis might be associated with disrupted neointima.

**TCT-101**

Positive remodeling is associated with vulnerable coronary plaque components regardless of clinical presentation: virtual histology-intravascular ultrasound analysis

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**Background:** We used virtual histology-intravascular ultrasound (VH-IVUS) to evaluate the relationship between coronary artery remodeling pattern and plaque components in 1,133 patients.

**Methods:** We divided the patients into two groups according to the remodeling pattern as positive remodeling (PR, remodeling index >1.05) and intermediate remodeling (IR, remodeling index ±0.05 and <0.95)/negative remodeling (NR, remodeling index <0.95). VH-IVUS analysis classified the color-coded tissue identified intimal disruption (odds ratio: 19.40, 95% confidence interval: 1.02 to 194.0) (n=192) and intermediate remodeling (IR, remodeling index ≤0.95) (n=941). VH-IVUS analysis classified the color-coded tissue.

**Results:** At the minimum lumen site, PR group had greater plaque plus media area (12.8±4.9 vs. 9.9±3.8 mm2, p<0.001) and greater %NC area (21.7±12.3 vs. 18.2±11.0%, p=0.001) and smaller %FT volume (58.3±11.7 vs. 60.6±11.0%, p=0.009) compared with IR/NR group. PR group had greater plaque volume (188±150 vs. 135±130 mm3, p<0.001) and greater %NC volume (19.1±9.6 vs. 16.6±9.2%, p=0.001) and smaller %FT volume (58.3±11.7 vs. 60.6±11.0%, p=0.009) compared with IR/NR group. PR group had more TCFA compared with IR/NR group (21% vs. 13%, p=0.006). Similar findings about plaque components were observed in terms of greater %NC volume and smaller %FT volume in PR group compared with IR/NR group in patients with both acute coronary syndrome and stable angina.

**Conclusion:** VH-IVUS analysis demonstrates that PR was associated with more vulnerable plaque components compared with IR/NR regardless of their clinical presentation.

**TCT-102**

Multiple Plaque Rupture, Erosion and Stability as Assessed by Optical Coherence Tomography (OCT), Angiography, Intravascular Ultrasound (IVUS) and Coronary Computed Tomographic Angiography (CT-angiography)

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**Background:** Atherosclerotic plaques associated with acute coronary syndromes (ACS) on histopathological characterisation demonstrate either ruptured fibrous caps (RFC) or intact fibrous caps (IFC). The latter IFC lesions are often referred to as plaque erosions and are responsible for up to one-third of culprit lesions in ACS patients. Invasive and non-invasive imaging modalities including OCT, angiography, IVUS, and CT-angiography would be useful to disclose the mechanism of ACS.

**Methods:** While 57 patients with ACS or stable angina consented to multiple invasive follow-up of these cases.

**Results:** Of 38 culprit lesions with ACS, OCT revealed IRC with thrombus (erosion) in 11 (29%) and ruptured fibrous cap in the remaining 27 (71%). All 25 lesions with stable angina had intact-fibrous caps. Fibrous caps were significantly thinner in RFC-ACS than RFC-ACS and stable angiina by OCT (45±12μm, 46±9μm, 32±13μm, respectively; p<0.001). CT verified that low-attenuation plaques were more frequently observed in RFC-ACS than IFC-ACS and stable angiina (85, 36, 16%, p<0.001) lesions. Similarly, positive remodeling was more predominantly seen in RFC-ACS than RFC-ACS and stable angiina (93, 18, 12%; p<0.001). However, none of the specific CT-angiography features clearly distinguished IFC-ACS from stable lesions.

**Conclusion:** IFC-ACS lesions based on OCT and angiographic characteristics demonstrated less low attenuation plaque and less positive remodeling than ruptured plaques by CT-angiography. Since there are no unique CT features of non-ruptured culprit lesions to enable their clear distinction from stable lesions, it will be difficult to develop CT-based non-invasive imaging techniques to allow the clear identification of subjects at high risk of developing ACS due to plaque erosion.