

## Acute Coronary Syndromes

### SPONTANEOUS CORONARY ARTERY DISSECTION IN PATIENTS WITH ACUTE CORONARY SYNDROME

Poster Contributions

Poster Sessions, Expo North

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**Background:** Spontaneous coronary artery dissection (SCAD) found typically in young females without classical coronary risk factors is thought to be a very rare cause of acute coronary syndrome (ACS). Previous angiographic studies have reported that SCAD is observed only in 0.07% to 1.1% of patients with coronary artery disease, however, the real prevalence of SCAD in ACS subjects may be underestimated due to the nature of coronary angiography. Optical coherence tomography (OCT) is a novel intracoronary modality with high resolution, and provides unique insights in SCAD which are difficult to visualize with other modalities. The aim of this study was to use OCT to investigate the real prevalence and clinical features of SCAD in ACS subjects.

**Methods:** This study consisted of 326 consecutive patients with ACS who underwent OCT to explore the entire culprit artery. Patients presenting severe congestive heart failure, cardiogenic shock, unsuitable lesions for OCT imaging, and TIMI grade 0 or I after thrombectomy were excluded. All OCT images were analyzed by two expert OCT readers who were blind to the clinical data. The OCT criterion for SCAD was a separation of the different layers of the artery wall with the creation of a false lumen. Plaque rupture in OCT was diagnosed when plaque showed disruption of a fibrous cap with a cavity formation in continuity with the lipid core. Based on OCT findings, patients were assigned to three groups: 1) SCAD, 2) plaque rupture (PR), and 3) non-SCAD/non-rupture group.

**Results:** OCT revealed 13 (4.0%) SCADs and 160 (48.9%) plaque ruptures in ACS subjects. The percentage of females versus males was greater in the SCAD group (SCAD: 53.8% vs. PR: 20.0% vs. non-SCAD/non-PR: 23.5%,  $P=0.02$ ) while no difference was observed in age (SCAD:  $67.3\pm 13.3$ , vs. PR:  $66.5\pm 11.1$  vs. non-SCAD/non-PR:  $67.0\pm 10.5$ ,  $P=0.90$ ). The prevalence of dyslipidemia (SCAD: 20.0% vs. PR: 63.8% vs. non-SCAD/non-PR: 67.5%,  $P<0.01$ ) and current smoking (SCAD: 10.0% vs. PR: 58.1% vs. non-SCAD/non-PR: 58.6%,  $p<0.01$ ) were significantly lower in the SCAD group.

**Conclusions:** SCAD is not a rare cause of ACS, especially in female patients without dyslipidemia or smoking.