Abstract: P3647

Spontaneous coronary artery dissection: new insights on presentation, clinical and angiographic characteristics from the french multicenter registry DISCO study

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Background: Spontaneous coronary artery dissection (SCAD) is an underdiagnosed and poorly understood cause of acute coronary syndrome (ACS). Clinical, angiographic features and management remain to be better defined in large cohorts.

Purpose: The aim of this study was to evaluate clinical, angiographic characteristics, treatment modalities and prognosis of patients with SCAD from a multicenter national registry.

Methods: From 2016 to 2018, SCAD patients were enrolled retrospectively and prospectively in the French multicenter registry DISCO study in 61 cardiology interventional centers. All coronary angiograms were reviewed by 2 experienced cardiologists for diagnosis confirmation and classified according to current angiographic SCAD classification.

Results: A total of 373 confirmed SCAD patients were included, 45.6% prospectively, 54.4% retrospectively. Mean age was 51.5±10.3 years, with 90.6% women of whom 51.2% were postmenauposal. Ninety percent of patients had ≥2 cardiovascular risk factors, 96.2% presented with ACS, with a positive troponin in 95.4%, and ST-segment elevation in 45.0%. Precipitating emotional stress factors were reported in 46.0% and a physical trigger in 12.4%. Systemic inflammatory disease was present in 5 patients (1.4%). Peripartum SCAD accounted for only 4.4% of cases. The majority of patients (75.1%) had type 2 angiographic SCAD (diffuse long smooth tubular lesions due to intramural hematoma), with only 13.8% and 8.9% having type 1 (longitudinal filling defect) and type 3 (multiple focal tubular lesions due to intramural hematoma) respectively. Multivessel SCAD occurred in 6.2%. While 84.2% of SCAD patients were initially treated conservatively, 15.5% underwent percutaneous coronary intervention as the initial strategy and 1 patient (0.3%) required surgical implantation of a left ventricular assist device. Repeat angiogram was conducted in 288 patients (median 38 [8-70] days) showing improvement of the culprit lesion in 81.9%. At 1 year follow-up, recurrent SCAD occurred in 2.5%, major adverse cardiac events (stroke, myocardial infarction, and revascularization) in 7.7%, and all patients survived.

Conclusion: Our study confirms that SCAD predominantly affects early middle-aged women with few cardiovascular risk factors, with peripartum SCAD accounting for a minority of cases. Type 2 angiographic
SCAD which is difficult to recognize was the most frequent angiographic appearance. This may contribute to the underestimation of SCAD in clinical practice. The majority of patients were treated conservatively with favorable outcomes. Longer-term follow-up of this large cohort and further investigations on physiopathology are warranted to improve management and risk stratification of patients.