

Clinical implication of coronary nodular calcification in hemodialysis patients with ischemic heart disease.

Coronary artery calcification in HD patients is known to be associated with the higher mortality and is an obstacle of medical or interventional therapy. However, the detail characteristics of the calcification have never been fully investigated. The aim of present study was to investigate the prevalence and clinical implication of coronary nodular calcification (NC) in HD patient with ischemic heart disease. Methods and results: We analyzed 242 native coronary arteries in 100 HD patients with ischemic heart disease by FD-OCT from April 2013 to May 2015. NC was defined as single convex protruded mass with highly attenuated signal-poor region beyond a sharply delineated superficial border. In non-significant stenosis, analysis was limited the plaque with axial diameter over quarter height of internal lumen diameter and the arc within 120 degree. Also, in-stent and in-segment plaque were excluded. Overall, NC was detected in 40 of analyzed arteries in 36 patients, and 29 of them were founded in non-significant stenosis. There were no significant differences in laboratory findings between patients with and without NC. Multivessel disease (83% vs 61%), comorbid severe atherosclerotic disease, ie PAD and/or AS (75% vs 48%), and all-cause death (22% vs 8%) were significantly more prevalent in NC-positive group. In some PCI cases, NC forced un-uniformed, suboptimal stent dilatation, or stent malapposition. Conclusions: NC in HD patient has an important role in poor clinical outcomes after PCI, and is associated not only with severity of coronary artery disease, but also with systemic atherosclerosis and poor progression.