

Why do you think dialysis patients are independent predictor of ACS?

¹Dokkyo Medical University

Hideki Yano¹, Shigeo Horinaka¹, Toshihiko Ishimitsu¹

Background: Patients undergoing chronic hemodialysis are independently associated with increased risk for ACS. Thin-cap fibroatheroma (TCFA), which is characterized by the presence of a large lipid pool with overlying thin fibrous cap measuring <65 μm , is recognized as a precursor for plaque rupture. But, serial changes in fibrous cap thickness in dialysis patients is still unknown. **Methods and Results:** Of 189 patients receiving elective PCI (with de-novo stable angina or silent ischemia cases) were performed OCT examination, 141 patients with observable fibrous cap atheroma by OCT were enrolled. The HD and Non-HD group were 51 patients and 90 patients, respectively. The OCT catheter was initially advanced either to the area of the tightest stenosis. After imaging of the center of a plaque, the catheter was moved to the proximal and distal shoulder regions. The calcified area, thickness of the fibrous cap, and frequency of lipid-rich plaque and TCFA were evaluated by OCT at just before intervention. Calcified area was larger in HD group (3.57 vs. 1.76 mm^2 , $p=0.002$). In the HD and non-HD groups, lipid-rich plaque was observed in 78% and 48%, respectively ($P=0.021$). The median value of the minimum thickness of the fibrous cap was thinner in HD than in non-HD group (48.0 μm vs 100.3 μm , $P=0.002$). TCFA frequency and the presence of plaque erosion were significantly different between the HD and non-HD groups (74.5 vs. 27.8%, 29.4 vs. 12.2%, $P=0.022, 0.032$). **Conclusions:** In hemodialysis patients, fibrous cap thickness was thinner and the prevalence of TCFA was higher compared with non-HD even though stable angina. These findings suggest that hemodialysis is independently associated with increased risk for ACS.