10025

Impact of hyperuricemia on target vessel revascularization after percutaneous coronary intervention for chronic total occlusion

Background: Elevated serum uric acid (SUA) level is reportedly associated with subsequent cardiovascular events including revascularization in patients with coronary artery disease. However, the impact of SUA level on revascularization in patients with chronic total occlusion (CTO), one of the highest-risk subsets in coronary artery disease, is unclear. Methods: A total of 119 patients who underwent successful percutaneous coronary intervention (PCI) with drug-eluting stent for CTO under intravascular ultrasound (IVUS) guidance were included. Baseline SUA level was obtained in all patients. Coronary angiography was qualitatively and quantitatively assessed, and gray-scale IVUS was also analyzed. The primary endpoint was target vessel revascularization (TVR).Results: Mean SUA level was 5.7±1.3 mg/dl, and TVR was observed in 13 (11%) patients during the mean follow-up of 31 months. Patients with TVR had significantly higher SUA level (5.6±1.3 mg/dl vs. 6.4±1.2 mg/dl, p=0.047) and smaller minimum stent area on IVUS at post-PCI (4.86±1.99 mm^2 vs. 3.52±1.88 mm^2, p=0.04). On receiver operating characteristics curve analysis, SUA level significantly predicted TVR (AUC 0.68, best cut-off value 6.6 mg/dl, p=0.04). With the best cut-off value, Kaplan-Meier curve analysis showed a significantly higher incidence of TVR in patients with SUA >6.6 mg/dl than their counterpart. Multivariable analysis showed SUA>6.6 mg/dl and smaller minimum stent area as independent predictors of TVR.Conclusion: In patients undergoing PCI with drug-eluting stent, elevated SUA level was associated with TVR after successful recanalization of CTO.