

¹Division of Cardiology, St. Marianna University School of Medicine ²Division of Cardiology, St. Marianna University
Yokohama-city Seibu Hospital, Yokohama, Japan

Yuki Ishibashi¹, Masahiro Yamauchi², Haruki Musha², Fumihiko Miyake¹

Background; Contrast induced nephropathy (CIN) is a common complication after coronary angiography (CAG) with or without coronary intervention. **Purpose;** Cystatin C is serum marker of renal function which has been found to be more sensitive than serum creatinine (SCr) to detect acute change in renal function. This study was examined the usefulness of cystatin C and mortality in patients with and without CIN. **Methods;** We studied 100 patients who underwent elective CAG. The risk factors for CIN were measured before, 48 hours after CAG. We were observed during the 12 months follow-up survey in the group with and without CIN. **Results;** The frequency of CIN occurred in 0 patients (0%) with normal kidney, 10 patients (6.6%) with mild renal insufficiency (eGFR 60–89 ml/min/1.73 m²), 10 patients (34.4%) with moderate renal insufficiency (eGFR 30–59 ml/min/1.73 m²) and 3 patients (100%) with severe renal insufficiency (eGFR 15–29 ml/min/1.73 m²). The cut-off level of a cystatin C > 1.18 mg/l exhibited 81.8% (95% confidence interval: 0.810–1.064) sensitivity and 90.9% specificity for detecting CIN. Cystatin C levels with moderate renal insufficiency were significantly higher in CIN patients than in those without CIN (1.26 ± 0.18 vs. 0.78 ± 0.12 mg/L, p < 0.001). However, in the patients with moderate renal insufficiency, there were no differences the other factors for CIN as age, anemia, myocardial infarction, contrast volume and baseline SCr between the group with and without CIN. We measured the level of cystatin C at 48 hours, 3 months, 6 months and 12 months after the administration of contrast media, respectively and there were no significant changes at each time point compared with the cystatin C level obtained at baseline. **Conclusions;** Cystatin C before catheterization was a more sensitive marker than SCr. to detecting the occurrence of CIN with moderate renal insufficiency.