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EVALUATION OF THE RISK SCORE FOR PREDICTING CONTRAST-INDUCED NEPHROPATHY IN PATIENTS AFTER CORONARY INTERVENTION

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Objective To investigate the predictive value of contrast-induced nephropathy (CIN) risk score in elderly or pre-elderly patients undergoing percutaneous coronary intervention (PCI).

Methods Serum creatinine (SCr) of 48 ischemic heart disease (IHD) patients aged 55–88 years were collected pre-PCI and 1 day, 3 days, 7 days after PCI to evaluate glomerular filtration rate (eGFR). Ultrasonic cardiogram was performed in each patient. Clinic CIN risk factors (>75 years, hypertension, diabetes, chronic heart failure, chronic renal failure, anaemia) and the CIN risk score were employed and compared with renal function and CIN prevalence after PCI.

Results Forty four patients had CIN risk factors, average 1.6 ± 0.9 . Seven cases reached CIN standards (CIN group). The increased amplitude of SCr was $33.1 \pm 4.5\%$ or $26.9 \pm 6.6 \mu\text{mol/l}$ ($22\text{--}41 \mu\text{mol/l}$). Compared with non-CIN group, the baseline left ventricular ejection fraction (LVEF) and fraction shortening (FS) of CIN group were significantly lower, 0.51 ± 0.06 vs 0.56 ± 0.04 , 0.25 ± 0.03 vs 0.28 ± 0.03 , $p < 0.05$, the number of >75 years patients and risk factors in CIN group were significantly increased, respectively $6/7$ vs $15/41$, 2.3 ± 1.1 vs 1.5 ± 0.9 , $p < 0.05$, accumulated risk score of CIN group was significantly higher, 10.6 ± 3.5 vs 6.6 ± 3.7 , $p < 0.05$. The predictive risk rate of CIN was effective and tally with real outcome. The age of patients was negative correlated with baseline LVEF and FS, $r = -0.390$, $p < 0.01$, $r = -0.351$ $p < 0.05$, and positive correlated with the level of SCr the day after PCI, $r = -0.340$, $p < 0.05$. The number of risk factors and accumulative risk score were positive correlated with SCr 1d and 3d after PCI, risk factor $r = 0.299$, $p < 0.05$; $r = 0.545$, $p < 0.01$; risk score, $r = 0.327$, 0.397 , $p < 0.05$.

Conclusions Advanced age and deteriorate of heart function with aging are valuable predictors for CIN. We found that accumulative risk score is more accurate than multiple risk factors to predicting CIN after PCI in elderly or pre-elderly patients with IHD.