Contrast-induced acute kidney injury after computed tomography prior to transcatheter aortic valve implantation.

To identify independent predictors of contrast medium-induced acute kidney injury (CI-AKI) after enhanced multidetector-row computed tomography (MDCT) prior to transcatheter aortic valve implantation (TAVI) in high-risk patients. The present single-centre study analysed retrospectively 361 patients who were assessed using MDCT prior to TAVI. CI-AKI was defined as an increase in serum creatinine (SCr) of $\geq 25\%$ or $\geq 0.5$ mg/dl in at least one sample over baseline (24 h before MDCT) and at 24, 48, and 72 h after MDCT. A total of 38 patients (10.5%) experienced CI-AKI. As compared to patients without CI-AKI, they presented more frequently with estimated glomerular filtration rate (eGFR) $90$ ml as independent predictive factor of CI-AKI only in patients with baseline eGFR $<60$ ml/min/1.73m$^2$ (OR 2.615; 95% CI: 1.21-5.64). One in ten elderly patients with aortic stenosis undergoing MDCT to plan a TAVI procedure experienced CI-AKI after intravenous ICM injection. Intravenous administration of $<90$ ml of ICM reduces this risk in patients with or without pre-existing impaired renal function. However, in the majority of patients renal function recovers before the TAVI procedure.