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Titel des Beitrags:
Prediction of contrast-induced nephropathy in patients with serum creatinine levels in the upper normal range by cystatin C: a prospective study in 374 patients.

Abstract:
Preexisting renal impairment is a risk factor for contrast-induced nephropathy (CIN). In patients with creatinine in the upper normal level, cystatin C might be a more sensitive predictor of CIN than creatinine. Therefore, in this study, we investigated the usefulness of cystatin C to predict CIN. In 400 consecutive patients with creatinine baseline levels between 0.8 and 1.3 mg/dL undergoing coronary angiography (n = 200) or CT (n = 200), baseline values of cystatin C, creatinine, blood urea nitrogen (BUN) and risk factors of CIN were determined. Creatinine was also assessed 24 and 48 hours after contrast administration. Creatinine significantly (p = 25% or >= 0.5 mg/dL within 48 hours. CIN according to this definition was significantly more frequent after intraarterial contrast administration (38/190, 20%) compared with IV contrast administration (15/183, 8.2%; p = 0.001). CIN was predicted by baseline cystatin C (area under the receiver operating characteristic [ROC] curve [AUC], 0.715; p < 0.001), whereas creatinine, creatinine clearance, and BUN were not predictive. The best predictive capabilities were provided by cystatin C/creatinine-ratio (AUC, 0.826; p < 0.001). Multivariate
regression analysis showed that intraarterial contrast administration (p = 0.002) and higher baseline cystatin C (p < 0.001) combined with low creatinine (p = 0.044) were independently associated with higher increases in creatinine within 48 hours after contrast administration. CIN in patients with creatinine within the upper normal range is significantly more frequent after intraarterial than after IV contrast administration. In these patients, renal impairment after contrast administration is independently predicted by cystatin C and cystatin C/creatinine-ratio, whereas BUN and creatinine were not predictive.