

Medication and the risk of contrast-induced nephropathy

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Abstract

Introduction: The use of certain medications can promote the development of contrast nephropathy. Others have shown a protective effect.

The aim of this work was to determine the effect of concomitant medication on the risk of occurrence of contrast-induced nephropathy (CIN) after a percutaneous coronary intervention.

Methodology: This was a retrospective study of 133 patients explored by coronary angiography or treated by coronary angioplasty during a 3-month period in 2023.

CIN was defined by an increase in blood creatinine of 44 $\mu\text{mol/l}$ or 25% of the basal value, 48 to 72 hours after the procedure. We recorded all medications prescribed before and after the procedure.

Results: The median age of the patients studied was 63 years, with a male predominance (70%). The majority of patients were diabetic and hypertensive. The most commonly prescribed drugs were: renin-angiotensin-aldosterone system inhibitors (RAASi) in 66% of cases, beta-blockers (76%), diuretics (50%), except for anti-ischaemic treatment. The use of RAASi or beta-blockers was associated with the prevention of renal function, with a 3-fold higher probability of not developing this nephropathy.

On the contrary, diuretic medication was associated with a higher risk of CIN ($p=0.02$). This mainly concerned loop diuretics ($p=0.014$). It was also noted in our patients that a combination of RAASi with diuretics causes them to lose their protective effect.

Conclusion: Concomitant medication with iodinated contrast media injection remains a controversial issue. Further studies are needed to establish a causal link.