

Comparison of the effects of nicorandil and atorvastatin in preventing contrast -induced nephrophaty due to coronary angiography in patients with stage III chronic kidney disease

Abstract

Background: Acute renal failure due to contrast drugs is an important issue in patients with cardiovascular diseases and makes these patients more susceptible to acute renal failure due to contrast drugs.

Aim: To compare nicorandil and atorvastatin at the same time as at the 3rd stage of the disease with the third stage of chronic disease.

Materials and Methods: this clinical trial study was performed on 270 patiants, with the third stage of chronic kidney disease, how were admitted to Imam Khomeini Hospital in Ardabil in three groups: A, B and C. After obtaining informed consent at the beginning of study, the blood BUN and creatinine was evaluated. Group A (control): received intravenous hydration one hour before and after angiography with the same protocol as the other groups. Group B: One hour before angiography, in addition to intravenous hydration, received 10 mg of nicorandil and then 10 mg of nicorandil daily for 3 days. Group C: One hour before angiography, in addition to intravenous hydration, they received 80 mg atorvastatin and then 40 mg daily for 3 days. Serum creatinine was measured before angiography and 72 hours after contrast injection in patients in all three groups. A 25% increase in serum creatinine after 72 hours of angiography was considered kidney damage. Then, using SPSS statistical software, the amount of creatinine, BNU and glomerular filtration rate were compared between the groups.

Results: In this study, serum creatinine levels at the beginning of the intervention and 72 hours later in all three groups increased significantly and GFR decreased. The level of creatinine and GFR in 72 hours after the intervention was significantly different in the two groups of hydration with hydration + atorvastatin and hydration with nicorandil + hydration, but no significant difference was observed between the two treatment groups of atorvastatin + hydration with nicorandil + hydration

Conclusion: It seems that the use of nicorendil and atorvastatin before coronary angiography has positive benefits in reducing creatinine and increasing GFR.

Keywords: Nicorandil, Atorvastatin, Angiography, Contrast nephropathy