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PREVENTION OF CONTRAST-INDUCED ACUTE KIDNEY INJURY WITH ASCORBIC ACID AND PROSTAGLANDIN E1 IN HIGH RISK FACTORS PATIENTS UNDERGOING PCI

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Objective Contrast-induced acute kidney injury (AKI) is an important complication in the use of iodinated contrast media. AKI is the third most common cause of hospital-acquired AKI. The aim of the present study was to assess the safety and efficacy of ascorbic acid and Prostaglandin E1 in prevention of AKI in patients with high risk factors treated by PCI.

Methods One hundred and forty six patients undergoing PCI were divided into prostaglandin E1 group (74 patients) and control group (72 patients). The patients in therapy group received prostaglandin E1 and ascorbic acid intravenous infusion. The prostaglandin E1 was given by the rate of 20 ng/kg min for 6 h before and after the administration of contrast media. The total dosage of ascorbic acid intravenous and oral was 5.0 g, while the control group received 0.9% sodium chloride solution for routine hydration only. A nonionic, low osmolality contrast agent was used in our laboratory at this time. Serum creatinine values and estimated glomerular filtration rate (eGFR) were measured before and within 48h after the administration of contrast agents. Contrast-induced AKI was defined as an increase of 0.5 mg/dl or 25% in serum creatinine concentration over baseline within 48 h of angiography.

Results The amount of the contrast agent administered was similar for therapy and control group.(156, 63 ml vs 161, 68 ml; $p>0.05$). The incidence of contrast -induced AKI was lower in therapy group than in control (4.1% vs 12.5%, $p<0.05$). No side effects were observed in all patients during the research.

Conclusions In high risk factors patients undergoing PCI, the use of prostaglandin E1 and ascorbic acid for prevention of AKI is safe and efficacy.