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Objective To observe the incidence of contrast-induced nephropathy (CIN) in three groups: hydration with the sodium chloride, hydration with the sodium bicarbonate and the vitamin C besides hydration with the sodium chloride to explore the effective prevention method of CIN.

Methods 195 patients with acute coronary syndrome undergoing PCI were randomly divided into three groups: the sodium bicarbonate group (63 cases), the Vitamin C group (64 cases) and the sodium chloride group (68 cases) before using contrast medium. The sodium chloride group were given 0.9% sodium chloride with the speed of 1 ml/(kg· h), the sodium bicarbonate group were given 1. 5% sodium bicarbonate with the speed of 1 ml/(kg· h) 6 h before and 12 h after operation, the Vitamin C group were given Vitamin C 3.0 g by intravenous infusion 2~4 h before operation and, oral vitamin C, 1.0 g on day 1, 2 respectively, after operation on the basis of the sodium chloride group treatment, the total dose of the Vitamin C is 5 g. The renal function of all patients were accessed before and 1–3 days after operation. The eGFR were calculated by the model of MDRD formula modified to suit the operational practice of Chinese people: GFR (ml/min/1.73 m^2)=175×Scr (mg/dl)$^{-1.154}$×age$^{-0.203}$×(0.79 female). CIN is defined as an acute impairment of the renal function manifested by an absolute increase in the serum creatinine level of at least 0.5 mg/dl or by a relative increase of at least 25% from the baseline level within 72 h after contrast administration and ruling out other potential causes.

Results Of the 195 patients, there were 18 cases of CIN. The incidence of CIN was 13.24%(9/68) in sodium chloride group while 1.59%(1/63)in sodium bicarbonate group and 12.50% (8/64) in the Vitamin C group. There was a significant difference in the incidence of CIN between the three groups ($p<0.05$). The prevalence of CIN is much lower in sodium bicarbonate group than in sodium chloride group and Vitamin C group but there was not a significant difference between sodium chloride group and Vitamin C group.

Conclusion Hydration with sodium bicarbonate is more effective in reducing the prevalence of CIN than hydration with sodium chloride and Vitamin C besides hydration with sodium chloride.

[gw22-e0630] **PREVENTION OF CONTRAST-INDUCED ACUTE KIDNEY INJURY WITH THE SODIUM BICARBONATE IN ACS PATIENTS UNDERGOING PCI**

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