

조영제 신증에서 저나트륨혈증의 진단적 의의

가천의과학대학교 내과학교실

김세중 · 장제현 · 정지용 · 이현희 · 정우경

Hyponatremia as a Predictor of Contrast Induced Nephropathy

Sejoong Kim, Jae Hyun Chang, Ji Yong Jung, Hyun Hee Lee, Wookyung Chung

Department of Internal Medicine Gachon University of Medicine and Science

Background: Contrast induced nephropathy (CIN) is common complications after coronary angiography (CAG), although some preventive methods were studied. Contrast media-related hyponatremia may develop under mechanisms such as osmotic diuresis or translocational osmotic effects. However, there has been no study on hyponatremia as a mediator of CIN.

Methods: We enrolled 51 patients who undergoing CAG, and tested changes of electrolytes and renal function at hour 0, 6, 12 and 24 hours.

Results: The incidence of CIN and hyponatremia was 23.5% (12/51 patients) and 15.6% (8/51 patients), respectively. CIN group has lower levels of serum sodium and higher levels of serum osmolality and osmolar gap at hour 6 and 12. At hour 24, there was no difference in serum sodium levels between the two groups. Urinary sodium excretion was slightly increased in both groups, and there was no difference. Hazard ratio of serum sodium level at hour 12 (1–mmol/L increment) to the development of CIN was 0.678 (95% confidence interval, 0.489–0.939; $p=0.019$) after the adjustment of age, gender, diabetes, hypertension, and contrast media amounts.

Conclusion: Transient hyponatremia, which is related to contrast media, may precede the development of CIN in patients undergoing CAG. It suggests that hyponatremia could be involved in the mechanism of CIN, and that it may be a useful predictor of CIN.

Key Words: 저나트륨혈증, 조영제, 급성신부전

Hyponatremia, Contrast, Acute renal failure