

혈액투석 환자에서 혈청 나트륨과 사망률 간의 관계

가톨릭대학교 의과대학 내과학교실¹, 중앙대학교 의과대학 내과학교실²
 경북대학교 의학전문대학원 내과학교실³, 서울대학교 의과대학 내과학교실⁴
 연세대학교 의과대학 내과학교실⁵, 전남대학교 의과대학 내과학교실⁶

정성진¹, 김형욱¹, 김수현², 김영옥¹, 진동찬¹, 송호철¹, 최의진¹
 김용림³, 김연수⁴, 강신욱⁵, 김남호⁶, 양철우¹, 김용균¹

Serum Sodium Level and Outcomes in Patients Initiating Hemodialysis

Sungjin Chung¹, Hyung Wook Kim¹, Su-Hyun Kim², Young Ok Kim¹, Dong Chan Jin¹
 Ho Chul Song¹, Euy Jin Choi¹, Yong-Lim Kim³, Yon-Su Kim⁴, Shin-Wook Kang⁵
 Nam-Ho Kim⁶, Chul Woo Yang¹, Yong Kyun Kim¹

Department of Internal Medicine¹ The Catholic University of Korea College of Medicine
 Department of Internal Medicine² Chung-Ang University College of Medicine
 Department of Internal Medicine³ Kyungpook National University School of Medicine
 Department of Internal Medicine⁴ Seoul National University College of Medicine
 Department of Internal Medicine⁵ Yonsei University College of Medicine
 Department of Internal Medicine⁶ Chonnam National University Medical School

Background: It is well-known that chronic kidney disease (CKD) affects the ability of the kidneys to regulate water and sodium homeostasis. Therefore, the risk of dysnatremia increase with advanced stages of CKD. We investigated associations with serum sodium level measured at baseline with clinical outcomes in patients with end-stage renal disease (ESRD) initiating hemodialysis.

Methods: This was a prospective cohort study based on the 1216 patients enrolled in the Clinical Research Center for End-Stage Renal Disease in Korea. The association of serum sodium level with all-cause mortality was examined in Cox models with adjustment for potential confounders.

Results: During a median follow-up of 18.3 months, a total of 81 patients died. Patients with ≤ 135.9 mEq/L (n=371) had higher mortality when compared with patients with >136 mEq/L (n=845) (hazard ratio 2.041, p=0.001). In addition, patients with serum sodium levels of <130 (n=81), 130 to 135.9 (n=290) and >145 mEq/L (n=47) compared with 136 to 145 mEq/L (n=798) had unadjusted mortality hazard ratios of 2.920, 1.763 and 0.835 (p=0.001, p=0.025, and p=0.803). Furthermore, there were similar associations in models with incremental multivariable adjustments.

Conclusions: These results show that hyponatremic patients at the initiation of hemodialysis therapy have higher mortality, indicating that serum sodium level may have prognostic value.

Key Words: 혈액투석, 나트륨, 사망률
 Hemodialysis, Sodium, Mortality