

## 혈액투석환자에서 혈청 아스파르테이트아미노전달효소 수준과 사망율과의 관계

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### The Association between Serum Aspartate Aminotransferase Levels and Mortality in Hemodialysis Patients

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**Background:** Aspartate aminotransferase (AST) and alanine aminotransferase (ALT), commonly used as marker of liver function, have been reported to be associated with all cause-mortality in general populations. However, the association between AST, ALT and mortality in hemodialysis (HD) patients is uncertain. Our aim of study was to investigate whether serum AST and ALT levels are associated with mortality in HD patients.

**Methods:** HD patients were selected from Clinical Research Center registry for End Stage Renal Disease cohort in Korea. Patients were categorized into three groups by tertiles of serum AST and ALT levels as follows: AST levels: Tertile 1 <15 U/L; Tertile 2 as 15-20 U/L; Tertile 3 >20 U/L; ALT levels: Tertile 1 <11 U/L; Tertile 2 as 11-17 U/L; Tertile 3 >17 U/L. Cox regression analysis was used to calculate the adjusted hazard ratio (HR) of mortality with a serum AST or ALT levels of tertile 1 as the reference.

**Results:** A total of 3,066 HD patients were included. Median follow-up duration was 28 months. The multivariate Cox proportional hazard model showed that the highest tertile of serum AST levels was associated with higher mortality than tertile 1 as the reference (HR 1.60, 95% CI, 1.08-2.37, p=0.02) after adjustment for clinical variables. However, there was no significant association between serum ALT levels and mortality (tertile 2: HR 1.28, 95% CI, 0.83-1.98, p=0.269, tertile 3: HR 1.23, 95% CI, 0.82-1.86, p=0.322) with tertile 1 as the reference.

**Conclusions:** Our data showed that elevated serum AST level is significantly associated with increased mortality in HD patients, which suggest that HD patients with elevated serum AST level should be observed closely and need further investigation for liver diseases.

**Key Words:** 혈액투석, 아스파르테이트아미노전달효소, 사망율  
Hemodialysis, Aspartate aminotransferase, Mortality