

## KSN 2017 Abstract

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### Pre- and post-transplant serum alkaline phosphatase predicts graft failure and mortality in kidney transplant recipients

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**Objectives :** Recent studies showed that high levels of serum alkaline phosphatase (AlkPhos) are associated with all-cause or cardiovascular death in chronic kidney diseases. However, there are apparently no data on the effect of AlkPhos in kidney transplant recipients (KTRs). The aim of this study was to evaluate whether serum AlkPhos is associated with graft failure and mortality after kidney transplantation.

**Methods :** Among the 3029 kidney transplant recipients (KTRs) who were enrolled in a multicenter cohort, we examined the association of pre-transplant serum AlkPhos levels and long-term outcomes in KTRs.

**Results :** Pre-transplant serum AlkPhos  $\geq 80$  IU/L was associated with a hazard ratio (HR) for graft failure of 1.571 (95% CI 1.146–2.152,  $P = 0.005$ ) in a fully adjusted model. Death censored graft failure (DCGF) rate in kidney recipients gradually increased along the increments of AlkPhos. Also, a rise in serum AlkPhos by 40 IU/L during the first 3 months after kidney transplantation was associated with higher rates of DCGF (HR 2.353, 95% CI 1.506–3.676) and higher rates of mortality (HR: 2.733, 95% CI 1.479–5.050). Cox regression models using time-varying AlkPhos demonstrated significant relationships between AlkPhos and DCGF (HR 1.39, 95% CI 1.04–1.84) or mortality (HR 2.14, 95% CI 1.39–3.27).

**Conclusions :** Increased pre- and post-transplant serum AlkPhos and a rise of serum AlkPhos during early period after kidney transplantation is associated with graft failure and mortality in kidney transplant recipients.

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**Keywords :** Graft failure, Mortality, Kidney transplantation, alkaline phosphatase