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## **Correlation between bone specific alkaline phosphatase with bone mineral density in kidney transplantation recipients**

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**Objectives:** Alkaline phosphatase is a marker of high turnover bone disease in patients with end-stage renal disease and has been reported to be associated with bone mineral density. Recently, since the revision of the 2017 KDIGO CKD-MBD guideline is recommended to perform bone mineral density test, its importance is increasing in chronic kidney disease. We therefore investigated whether bone-specific alkaline phosphatase correlates with bone mineral density and predict bone mineral density after renal transplantation.

**Methods:** 110 patients who underwent renal transplantation at Seoul St. Mary's Hospital between 2014 and 2016 were included in this study. All patients underwent bone-specific alkaline phosphatase levels before renal transplantation.

**Results:** We compared bone mineral density (BMD) according to bone-specific alkaline phosphatase (BSALP) levels by dividing patients into normal (n = 90) and high BSALP groups (n = 20). The mean value of L-spine BMD before kidney transplantation was 1.21 in the normal group and 1.05 in the high BSALP group. (p value 0.002) And femur BMD was 0.94 and 0.82, respectively. (p value 0.007) The mean value of BMD in the high-BSALP group was lower than that of normal group by 1.19 and 1.04 for the L-spine and 0.91 and 0.83 for the femur, respectively. (p value 0.002, 0.035 respectively)

**Conclusions:** In patients with renal transplantation, high serum bone specific alkaline phosphatase levels before transplantation suggest lower bone mineral density and higher risk of fracture, and it is necessary to monitor them.