

## **Bone Metabolism Markers in Renal Graft Recipients**

**Introduction and Objective:** We evaluated the effectiveness of bone metabolism markers and bone mineral density according to the renal graft function along the renal transplantation.

**Materials and Methods:** Out of 454 renal recipients between 1975 and 2011 at Kitasato University Hospital, we analyzed eighty-seven cases of renal transplantation patients who had data of bone mineral density and bone metabolism markers. We evaluated bone mineral density and bone metabolism markers as followed: osteocalcin (OC), tartrate-resistant acid phosphatase (TRACP 5b), serum crosslinked N-telopeptide of type I collagen (NTx), bone alkali phosphatase (BAP), intact parathyroid hormone (iPTH), serum Calcium, and serum Phosphorus. These parameters were evaluated in 15 end stage renal disease patients before renal transplantation and 74 renal graft recipients of more than one year after transplantation.

**Results:** Five ESRD patients out of 13 of before transplantation were male and the average age of these were 38 years-old. Fifty transplanted recipients out of 74 were male and mean age were 47.6 year-old. The average period after renal grafting of those recipients were 108.3 months. Estimated GFR improved from 5.4 ml/min/1.73m<sup>2</sup> to 35.5 post-renal transplantation. According to this improvement of renal function, iPTH, OC and serum NTx were improved significantly. BAP and TRACP-5b were not recognized significant change.

**Conclusion:** We consider that BAP and TRACP-5b, which were little affected by renal function, could be useful bone mineral markers after renal transplantation.