

Abstract Type : Poster

Abstract Submission No. : PO-1479

Pre-transplant Osteoporosis and Osteopenia are Risk Factors for Fractures after Kidney Transplantation

Jeong-Hoon Lim, Eun Song Lee, Jang-Hee Cho, Hee-Yeon Jung, Ji-Young Choi, Sun-Hee Park, Yong-Lim Kim

Department of Internal Medicine-Nephrology, Kyungpook National University Hospital, Korea, Republic of

Objectives: There is a high risk of fracture after kidney transplantation (KT). Kidney transplant recipients (KTRs) are susceptible to persistent hyperparathyroidism and other disorders of bone and mineral metabolism. However, the risk factors for fractures after KT remain uncertain. The aim of the present study was to investigate the risk factors for fracture after KT.

Methods: A total of 941 KTRs were enrolled from a multicenter observational cohort study in Korea from 2012 to 2016. The biochemical markers were measured at the time of KT, then annually for 5 years following KT. All fracture events were recorded. A Cox proportional hazards analysis was performed to calculate hazard ratios (HR) for the association of risk factors with fractures.

Results: Twenty-two fractures had occurred in twenty patients during the study period. Baseline and serial changes of mineral and bone biochemical markers were similar between fracture and non-fracture patients. Among the total study population, 104 patients were diagnosed with osteoporosis and 422 patients were diagnosed with osteopenia in a pre-transplant bone mineral density test. In a multivariate Cox analysis, pre-transplant osteoporosis (HR, 11.76 [95% confidence interval (CI) 2.28–60.69], $P=0.003$) and pre-transplant osteopenia (HR, 5.21 [95% CI 1.15–23.57], $P=0.032$) were independent risk factors for fracture in KTRs.

Conclusions: Pre-transplant osteoporosis and osteopenia were independent risk factors for fracture after KT. More careful monitoring of bone mineral density before and after KT might be beneficial to predict the risk for fracture after KT.