

## **POST TRANSPLANT BONE DISEASE. ARE WE MISSING ANYTHING?**

**Haque, Ammar:** Siddiqui, Khadija; Saleh, Mohammad; Alberti, Barbara; Hussain, Syed. Cement J-Zablocki VAMC and Medical College of Wisconsin, Milwaukee, WI, USA. **Background:** One major adverse effect of kidney transplantation is osteoporosis. However, the relationship of PTH, serum Ca, vitamin D levels, and duration of dialysis prior to transplantation remains largely unexplored. This study aims to assess the relationship of PTH, serum Ca., vitamin D, bone mineral density (BMD) exams, and duration of dialysis prior to receiving kidney transplant.

**Methods:** We retrospectively reviewed medical records of 43 patients who received a renal transplant. Patients were excluded (16) if they did not have the appropriate labs (PTH, serum Ca., vitamin D levels) and the BMD exam as needed for the study. Patients were further classified by their chronic kidney disease (CKD) stage based on their eGFR(MDRD): group A (CKD stage II), group B (CKD stage III), and group C (CKD stage IV).

**Results:** All but one of patients were male (total n=27). Group A consisted of 5 patients (mean age  $59.6 \pm 16$ , mean eGFR  $70.22 \pm 5.66$ , n=5); group B, 18 patients (mean age  $51 \pm 4.55$ , mean eGFR  $47.2 \pm 7.69$ , n=18); and group C, 4 patients (mean age  $62.8 \pm 7.63$ , mean eGFR  $24.45 \pm 5.17$ , n=4). 40%, 5%, and 0% of the patient(s) in group A, group B, and group C (respectively) were found to have osteoporosis. 60%, 55%, and 75% of the patient(s) in group A, group B, and group C had osteopenia. 85.2% of all the patients in our study have bone mineralization disease. The mean PTH levels were 155 pg/ml ( $\pm 170.12$ ), 128 pg/ml ( $\pm 71.53$ ), and 159 pg/ml ( $\pm 144.86$ ) in group A, group B, and group C, respectively. 25 hydroxy vitamin D levels were 28.2 ( $\pm 9.23$ ), 39.2 ( $\pm 12.4$ ), and 24 ( $\pm 5.5$ ) in group A, group B, and group C, respectively. T scores were -2.32 ( $\pm 0.6$ ), -1.56 ( $\pm 0.73$ ), and -1.05 ( $\pm 0.173$ ) in group A, group B, and group C, respectively. Patients had 40.5 months, 22.41 months, and 24.75 months of pre-transplant hemodialysis in group A, group B, and group C (respectively).

**Conclusion:** Longer duration of pre-transplant hemodialysis was associated with a lower T-score. Defective bone mineralization did not seem to be dependent on different stages of kidney disease. A prospective trial is needed to assess the requirement of possible interventions regarding bone disease in post transplant patients as in non-transplant CKD patients.