KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1125

Management of hypocalcemia and secondary hyperparathyroidism following denosumab treatment in hemodialysis patients with osteoporosis

Sangeon Gwoo, Misun Kim
Department of Internal Medicine-Nephrology, SMG Yeonse Hospital, Korea, Republic of

Objectives: Osteoporosis in patients with chronic kidney disease is a common problem and causes complications such as fractures. Although denosumab is the only treatment option for osteoporosis in CKD patients, subsequent hypocalcemia and secondary hyperparathyroidism are becoming barriers to prescription. We would like to share our experience with managing hypocalcemia and secondary hyperparathyroidism following denosumab treatment in our artificial kidney center.

Methods: We retrospectively reviewed the denosumab-treated ESRD osteoporosis patients of SMG Yeonse Hospital from January 2018 to January 2019. Anti-osteoporotic drugs (estrogens, selective estrogen receptor modulators, bisphosphonates, parathyroid hormones) naïve patients who started denosumab in January 2018 were analyzed. In the first cycle of denosumab treatment, no additional medications were given for hypocalcemia and secondary hyperparathyroidism. In exceptionally limited patients with symptomatic severe hypocalcemia, 1200 mg of calcium chloride was given during dialysis. In the second cycle, paricalcitol-selective VDRA was prescribed according to intact-PTH. Calcium supplements to correct hypocalcemia were not used to avoid unwanted vascular & extravascular calcification.

Results: 27 hemodialysis patients who started denosumab and kept following for 12 months were included in the analysis. In the first cycle without paricalcitol, serum calcium normalized after 4 months, whereas the second cycle with paricalcitol took 2 months. Intact-PTH levels also showed smoother stabilization in the second cycle with paricalcitol.

Conclusions: Hypocalcemia and i-PTH elevation were observed in the denosumab-treated ESRD osteoporosis patients. Paricalcitol, a VDRA, has been shown to reduce cardiovascular complications and mortality compared to calcitriol as active vitamin D. A combination of paricalcitol was effective in managing hypocalcemia and secondary hyperparathyroidism following denosumab treatment.

Figure 1. Sequential Serum Calcium Changes (mg/dL)

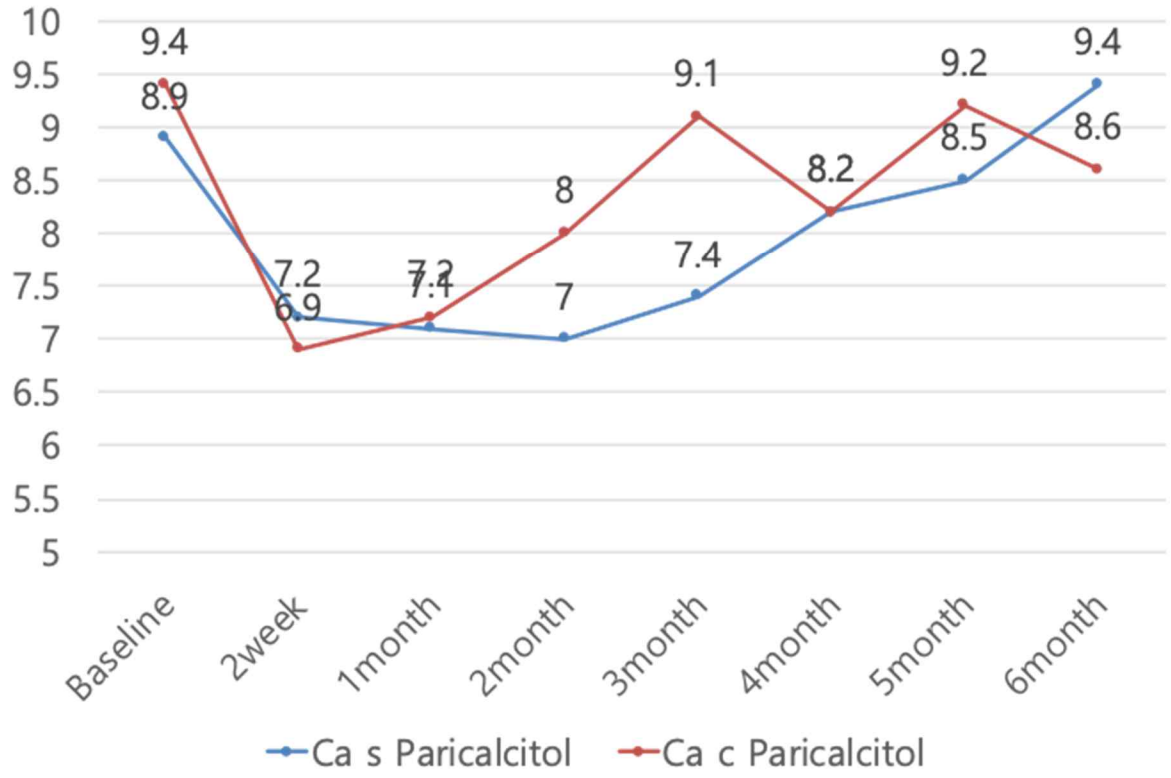

Figure 2. Sequential Serum i-PTH Changes (pg/mL)