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Denosumab recovers aortic arch calcification in kidney transplant recipients

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Objectives : Aortic arch calcification (AoAC) is associated with cardiovascular disease in kidney transplant recipients (KTRs). Recent research reported that Denosumab, as an agent for osteoporosis treatment, might also affect to AoAC in hemodialysis patients, but the clinical effect of denosumab on AoAC in KTRs remain unclear.

Methods : We analyzed 45 KTRs who used denosumab for the treatment of osteoporosis from 2018 to 2023. Denosumab was administered to KTRs every 6 months. AoAC was semiquantitatively estimated by calculating calcification score. We investigated the change of AoAC by simple chest X-ray, biochemical parameters, cardiovascular event, graft failure and patient death.

Results : The mean age was 50.6 ± 10.1 years. The mean AoAC score at 1-year post-denosumab was significantly decreased comparing to the mean AoAC score at pre-denosumab (18.1 ± 20.8 vs. 20.8 ± 23.4 , $P=0.025$). There were no significant differences in the calcium, phosphorus, PTH, vitamin D, creatinine and tacrolimus trough levels between pre- and post-denosumab. Cardiovascular event did not occur in the study population. There were no significant difference of graft failure and death in KTRs.

Conclusions : The use of denosumab might be effective to improve AoAC in KTRs.

AoAC_figure 1.png

