


Increased Bone Biomarker Monitoring Enables Measurably Improved Care for Chronic Kidney Disease Mineral Bone Disorder Patients


University Hospital Centre Zagreb and Polyclinic Avitum



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Chronic kidney disease–mineral and bone disorder (CKD-MBD) is a significant and debilitating disease in patients undergoing hemodialysis. For patients undergoing hemodialysis, CKD-MBD occurs due to dysregulation of minerals (calcium and phosphate), enzymes (alkaline phosphatase), and hormones (parathyroid hormone (PTH) and calcitriol) that are critical to bone health. Thus, close monitoring of biomarkers of bone health can enable early detection and initiation of preventative therapies. Current guidelines such as Kidney Disease: Improving Global Outcomes (KDIGO), recommend routine bone biomarker monitoring every three to six months in patients on haemodialysis treatment.

Recognizing the opportunity to improve bone health monitoring in patients with CKD, an integrated clinical care team from University Hospital Centre Zagreb developed a new best practice focused on early detection and intervention, if needed. The new protocols consisted of testing alkaline phosphatase and parathyroid every 4 to 5 weeks in all patients on calcimimetics and vitamin D (or vitamin D analog) treatment plans. They also perform monthly PTH testing for all children on dialysis with CKD with MBD.

The outcomes of this initiative positively affected patient care. In patients eligible for enhanced monitoring, over 60% received accelerated intervention. Dr. Ninoslav Leko, Head of Nephrology GH Slavonki Brod/Prim. Dr. Nephrologist, remarked, “More frequent monitoring of PTH contributes to better calcimimetic and vitamin D analog titration, slowing down the development of secondary hyperparathyroidism, and prevention of calcium bone loss. This increased information makes us more confident in providing better and more accurate therapy.”

The effects of this initiative have also been a significant cost saver for the institution, as earlier and more accurate treatment titrations achieved a remarkable 61% (\$10,300/annum to \$4,012/annum) cost reduction per patient requiring bone-saving therapy.

For their success in measurably improving health outcomes for patients with CKD-MBD, the integrated clinical care team received recognition with achievement from the distinguished 2021 UNIVANTS of Healthcare Excellence Award Program. Congratulations to the integrated clinical care team from University Hospital Centre Zagreb.

THREE KEY TAKEAWAYS:

- Chronic kidney disease - mineral bone disorder patients is a frequent and significant cause of morbidity and mortality.
- More frequent bone biomarker monitoring can enable early initiation of treatment, early assessment of treatment efficacy, and mitigate disease sequelae.
- Collaborative initiative and implementation of novel testing initiatives can significantly improve patient care, enhance clinical decision-making and mitigate healthcare costs.

To learn more about this clinical care initiative and/or to learn more about UNIVANTS, please visit:

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