CKD-MBD related publications in the ERA journals
From July to December 2024

The ERA recognizes the high clinical and scientific relevance of CKD-MBD syndrome, as reflected in several key publications in our society's journals. Here, we summarize the content of recent papers and provide links to their abstracts, full texts, or electronic publications (Epub) ahead of print.

From July to December 2024, 20 CKD-MBD-related articles - including editorial comments and E-pubs ahead of print - were published: 6 in *Nephrology Dialysis Transplantation* and 14 in the *Clinical Kidney Journal*.

1) **CKD-MBD associated cardiovascular risk** was analysed by **H. Arase et al** (Clin Kidney J 17 (6): sfae154), showing that multiple disorders (one, two, or three) within the *cardiovascular–bone–skeletal muscle* axis are strong predictors of morbidity and mortality in patients undergoing haemodialysis (HD) in Japan. **M. Kanbay et al** (Clin Kidney J 17 (9): sfae255) reported that lower serum *klotho* levels serve as a significant predictor of adverse outcomes, including increased risks of all-cause mortality, cardiovascular mortality and progression to end-stage kidney disease among CKD patients. **G. D'Arrigo et al** (Nephrol Dial Transplant 39 (10): 1737–1739) investigated the relationship between *osteopontin* and the risk of death and cardiovascular events in stage G3–4 CKD patients, using a joint model analysis for the first time. Additionally, **L. Soraci et al** (Clin Kidney J 17 (12): sfae336) described how the assessment of osteopontin may help identify older female participants at risk of poor outcomes based on a secondary analysis of the SCOPE study.

2) Regarding **bone health**, **D. H. Kang et al** (Clin Kidney J 17 (9): sfae248), on behalf of the KNOW-CKD (Korean Cohort Study for Outcomes in Patients With Chronic Kidney Disease), reported that advanced CKD stage and accelerated decline in renal function were associated with rapid bone mineral density (BMD) decline in non-dialysis patients with CKD. **K. Iseri et al** (Clin Kidney J 17 (8): sfae240) described that elevated PTH, notably not low PTH, was associated with the deterioration of hip-bone microstructures. They analysed changes in cortical and trabecular bone compartments and estimated bone-strength indices using a 3D-SHAPER software in 276 dialysis Japanese patients over a period up to 2.5 years. **H. I. C. Hassan et al** (Clin Kidney J 17 (10): sfae282) reported that acute kidney injury (AKI) is associated with an increased risk of bone fractures, which may have implications for the management and screening of bone disease in patients following an AKI episode. **L. Gifre et al** (Clin Kidney J 17 (8): sfae191) advocated for a proactive approach to the diagnosis, treatment, and research of vertebral fractures in both patients with CKD and the general population, emphasizing the need to avoid therapeutic nihilism. Finally, **D. Hansen et al** (Nephrol Dial Transplant 40 (1): 48–59), on behalf of the European Renal Osteodystrophy Working Group (EUROD), an initiative of our ERA CKD-MBD Working Group, reported a multidisciplinary team approach for CKD-associated osteoporosis.

3) Regarding **treatment of CKD-MBD**, **B. Zhuang et al** (Nephrol Dial Transplant 39 (10): 1649–1661) found that the novel *fiber-iron-based* phosphate binder *VS-505*, an acacia and ferric oxyhydroxide polymer, was well tolerated with a manageable safety profile. It effectively and dose-dependently reduced serum phosphate levels in HD patients with hyperphosphatemia. **S. Goto et al** (Clin Kidney J 17 (10): sfae263) reported that the benefit of *intensive phosphate management* appeared more pronounced in patients with a history of prior atherosclerotic cardiovascular disease or diabetic nephropathy, based on the analysis of a 9-year prospective

cohort study using the nationwide Japanese registry. **M. Wang et al** (Nephrol Dial Transplant 39 (7): 1159–1170) found that using a *phosphate balance calculator* improved serum phosphate control in Chinese patients undergoing maintenance HD. In relation to calcification propensity, **U. Thiem et al** (Clin Kidney J 17 (6): sfae097) investigated the effects of parathyroid hormone lowering by *etelcalcetide* therapy on T50 and calciprotein particles (CPP) in HD patients. They found that reducing PTH with etelcalcetide did not lead to statistically significant changes in T50. However, their study observed homogenous reductions in serum levels of calciprotein monomers, primary and secondary CPP. Finally, **W-C. G. Yeung et al** (Clin Kidney J 17 (8): sfae227) reported an updated critical analysis of clinical trial evidence of *vitamin D* therapy in CKD, and **K. J. ter Meulen et al** (Clin Kidney J 17 (10): sfae288) found that, after adjusting for confounders, there were no significant differences in the risk of all-cause and cardiovascular mortality between dialysate calcium concentrations of 1.50 and 1.25 mmol/l. After adjustment, a lower risk of sudden cardiac death was observed in patients with dialysate calcium 1.50 mmol/l. Additionally, a higher serum-to-dialysate calcium gradient was associated with an increased risk for adverse outcomes.

4) **Miscellany**: **L. Xue et al al** (Nephrol Dial Transplant 39 (7): 1105–1114) reported that phosphate wasting is prevalent in patients with autosomal dominant polycystic kidney disease (ADPKD), and is associated with more rapid disease progression. They postulated that phosphate wasting may result from early proximal tubular dysfunction and insufficient PTH suppression. **A. Hamroun et al** (Clin Kidney J 17 (11): sfae307) raised the hypothesis of renal phosphate wasting induced by excessive hepatic production of FGF23, based on two cases of *acute* hepatitis. **S. R. Kanduri et al** (Clin Kidney J 17 (9): sfae252) reported that immobilization should be included in the differential diagnosis of malignancy-associated hypercalcemia in the hospital setting and emphasized the importance of early patient mobilization. **S. Kato et al** (Clin Kidney J 17 (7): sfae153) described the association between magnesium, erythropoietin resistance and mortality using data from the Japanese Dialysis Outcomes and Practice Patterns Study (J-DOPPS). Finally, **M. Kanbay et al** (Nephrol Dial Transplant 39 (10): 1574–1582) summarized novel evidence suggesting Klotho as a key regulator for healthy pregnancies and intrauterine development with promising potential for clinical use.

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