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European Renal Association – European Dialysis and Transplant Association

High concentrations of phosphate are associated with retinopathy and death

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A common side effect of chronic kidney disease (CKD) is a disturbed mineral balance. Uremic patients excrete only a reduced amount of phosphate, this is the reason why the serum phosphate levels increase. An early marker of the phosphate retention is FGF23, its serum levels are usually elevated before the serum phosphate levels begin to rise [1].

A newly published study [2] in Nephrology Dialysis Transplantation (NDT) showed that among individuals with moderate to severe CKD, higher serum phosphate (but not FGF23!) was independently associated with more severe retinopathy and microvascular retinal venous dilatation. This may have a clinical implication, as retinopathy is a leading cause of vision loss in patients with diabetes, of whom many suffer from a reduced kidney function.

“So far, the associations of phosphate with the ocular vasculature had not been studied in detail”, explains Prof. Carmine Zoccali, NDT Editor-in-Chief. “Therefore the study is very innovative and important – although the results are not that surprising”. Why is that? “It is known that the disturbed mineral metabolism, especially high phosphate, high parathyroid hormone (PTH), but also very high and very low calcium levels are associated with vascular disease and mortality in CKD patients. It would be surprising, if the vessels in the eyes were not affected”.

The COSMOS study [3], a 3-year, multicentre, open-cohort, prospective study carried out in 6,797 adult haemodialysis patients, has now provided further evidence of the association of serum phosphorus, calcium and PTH and mortality. It even suggests that controlling these biochemical parameters might result in a survival benefit. The study has been published in the latest issue of NDT, too.

[1] Oliveira RB et al. CJASN 2010; 5 (2) 286-91

[2] Rupal M et al. NDT 2015

[3] Fernández-Martín JL et al. NDT 2015

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About ERA-EDTA

With more than 7,000 members, the ERA-EDTA ("European Renal Association – European Dialysis and Transplant Association") is one of the biggest nephrology associations worldwide and one of the most important and prestigious European Medical Associations. It supports basic and clinical research in the fields of clinical nephrology, dialysis, renal transplantation and related subjects. The ERA-EDTA supports a number of studies as well as research groups and has founded a special "Fellowship Programme" for young investigators as well as grant programmes. In order to involve young nephrologists in all activities of the ERA-EDTA the Council decided to create a Young Nephrologists' Platform (YNP). Besides, it has established various research networks and different working groups to promote the collaboration of nephrologists with other medical disciplines (e.g. cardiology, immunology). Furthermore, a "European Renal Best Practice" (ERBP) advisory board has been established by the ERA-EDTA to draw up and publish guidelines and position statements. Another important goal of the ERA-EDTA is education: several series of CME-courses as well as the annual congress offer an attractive scientific programme to cover the need of continuous medical education for doctors working in the fields of nephrology, dialysis and transplantation. The association's journals, NDT (Nephrology, Dialysis, Transplantation) and ckj (Clinical Kidney Journal), are currently the leading nephrology journals in Europe. The ERA-EDTA Registry is a large epidemiologic database comparing countries by assessing nephrology practice throughout Europe. Finally, ERA-EDTA is member of the European Kidney Health Alliance (EKHA), a consortium of renal societies that actively interacts with the European Parliament. For more information please visit www.era-edta.org