Conclusions: Using a large, general-population-based cohort of adults aged 25-years and older, the reference interval derived for uPiCr was 0.38 – 2.48 mmol/mmol. To our knowledge this is the largest study for the evaluation of a uPiCr reference interval. This enables assessment of phosphate homeostasis using random urine samples in clinical practice.

### SAT-322

**MISCLASSIFICATION OF CALCIUM STATUS IN END-STAGE KIDNEY DISEASE USING ALBUMIN-ADJUSTED CALCIUM LEVELS**

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**Introduction:** Disturbed calcium metabolism and mineral bone disease (CKD-MBD) is a common development as patients approach end-stage kidney disease. Clinical laboratories measure total calcium and adjust for serum albumin concentrations to approximate ionised levels and help classify calcium status. The strength of relationship between corrected and ionised calcium weakens below serum albumin levels of 30g/L. Clinical treatment guidelines for CKD-MBD continue to recommend the use of albumin-adjusted calcium for monitoring despite ionised calcium being the biologically active fraction.

**Methods:** Paired samples of albumin-adjusted and ionised calcium were collected over a 6-month period from patients with chronic kidney disease (CKD) Stage 5 (n=58) and 5D (n= 294, 196 haemodialysis, 98 peritoneal dialysis) admitted under the Renal Unit in a tertiary hospital setting. Albumin-adjusted calcium was calculated using the modified Payne formula.

We compared albumin-adjusted and ionised calcium for correct assignment of calcium status to ‘hypocalcaemia’, ‘normocalcaemia’ and ‘hypercalcaemia’. The agreement between the two methods in assigning calcium status was assessed using Cohen’s weighted kappa (k) statistic, where if the assigned calcium status differed across two categories, there is greater disagreement than if the methods differ by only one category.

**Results:** Albumin-adjusted calcium was a poor predictor of calcium status compared to ionised calcium in the combined Stage 5 and 5D group (observed agreement 0.42, weighted k 0.20, 95% CI 0.15-0.26). Dialysis dependence was associated with worse agreement (observed agreement 0.38, weighted k 0.14, 95% CI 0.09-0.19). The agreement between albumin-adjusted and ionised calcium was particularly poor in the peritoneal dialysis group (observed agreement 0.49, weighted k 0.07, 95% CI 0.00-0.14) compared to haemodialysis group (observed agreement 0.32, weighted k 0.16, 95% CI 0.09-0.22). Albumin-adjusted calcium levels tended to ‘over-correct’ by misclassifying calcium status as ‘hypercalcaemia’ with a normal measured ionised calcium, and ‘normocalcaemia’ when ionised calcium was low in 58% of all paired samples. Calcium status was not more accurately classified in those with higher albumin levels >30g/L (41% to 50%, p=0.78).

**Conclusions:** Albumin-adjusted calcium is unreliable for the classification of calcium status in end-stage kidney disease, particularly in the dialysis dependent group. Overall, this method ‘overcorrects’ serum calcium and might lead to either under-treatment of hypocalcaemia or suboptimal electrolyte management. This finding has significant implications in the management of CKD-MBD and secondary hyperparathyroidism given current guidelines using albumin-adjusted calcium, indicating that the basis for these guidelines may need to be reconsidered.

### SAT-324

**STUDY OF AMBULATORY BLOOD PRESSURE MONITORING POST KIDNEY DONATION**

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**Introduction:** Hypertension is common in the general population. Uncontrolled hypertension is a contraindication to kidney donation. Issues related to the effect of unilateral nephrectomy leading to increased hypertension on the long term is not well established. Aim of this study is to identify hypertension prevalence in kidney donors by ABPM and study the effect of unilateral nephrectomy on BP in them.

**Methods:** We prospectively enrolled 80 consenting kidney donors aged between 20 to 65 years and followed them serially at pre donation, 6 month and 12 months post kidney donation. We excluded kidney donors who refused to consent, hypertensives with target organ damage and pregnant females. eGFR is measured using CKD EPI formula. BP was measured in clinic by sphygmomanometer and by Ambulatory Blood pressure monitoring (ABPM) using Meditech ABPM05. 2D Echocardiography, Ophthalmological examination and 24 hour urine protein measurement were done at each visit.

**Results:** There was significant difference (P < 0.001) in pre-donation Systolic blood pressure by clinic and ABPM (∆1.387 + 5.5 Vs 11.77 + 10.2) suggestive of White coat hypertension( WC) effect of 40% which decreased at 6 months and 12 months. 3.75 patients were having masked hypertension(MH) and only 12.5% donors were having sustained hypertension (SH). No kidney donor had hypertensive retinopathy and Left ventricular hypertrophy (LVH). Blood pressure was stable by ABPM till 1 year post donation. Obese and elderly (> 50 years) donors had higher observed blood pressure by OBPM and ABPM and low eGFR (105 & 99.28 ml respectively ). Mean (Diastolic clinic) BP,