and HPLC assays of urine albumin levels in 10,010 participants in the Australian Diabetes, Obesity, and Lifestyle (AusDiab) study.

The prevalence of microalbuminuria in the study population increased from 6% when measured by immunoassay to 20% when measured by HPLC. Hypertension, glucose intolerance, diabetes mellitus, older age and female sex were independently associated with reclassification into the microalbuminuric group by HPLC. Ongoing comparison of long-term clinical outcomes in study participants will reveal the clinical significance of these associations.

Jim Casey

Original article Polkinghorne KR *et al.* (2006) Population prevalence of albuminuria in the Australian Diabetes, Obesity, and Lifestyle (AusDiab) study: immunonephelometry compared with high-performance liquid chromatography. *Am J Kidney Dis* **47:** 604–613

Sevelamer for treating hyperphosphatemia in pediatric CKD patients

Calcium-containing phosphate binders are the current mainstay of treatment for hyperphosphatemia in children with chronic kidney disease (CKD), but they are associated with an increased risk of vascular calcification. Now, researchers in Germany have found that sevelamer, a calcium-free phosphate binder that has been used widely in the adult hemodialysis population, might also be suitable for treating hyperphosphatemia in the pediatric setting.

In this multicenter, open-label, crossover study, 18 pediatric dialysis patients (mean age 12.4 years) were randomized to receive calcium acetate or sevelamer. After 8 weeks, both treatments significantly reduced serum phosphorus levels, by similar amounts (both $P<0.005$ compared with baseline). In sevelamer-treated patients, there was a 27% reduction in mean total cholesterol levels and a 34% decrease in mean LDL cholesterol levels after 8 weeks ($P<0.05$ for both), but these parameters did not change in the calcium-acetate-treated patients. The incidence of hypercalcemia (serum calcium levels >2.8 mmol/l) was significantly greater after 8 weeks of calcium acetate treatment ($P<0.0001$), whereas sevelamer therapy increased the incidence of metabolic acidosis ($P<0.005$). No other serious adverse events were significantly associated with either treatment, and compliance with treatment was generally good in both groups.

Subject to confirmation in larger trials, sevelamer might become the treatment of choice for children with CKD plus hyperphosphatemia, because of its additional cholesterol-lowering benefits. Sevelamer-treated patients should, however, be closely monitored for metabolic acidosis.

Rachael Williams

Original article Pieper A-K *et al.* (2006) A randomized crossover trial comparing sevelamer with calcium acetate in children with CKD. *Am J Kidney Dis* **47:** 625–635

Modified buttonhole cannulation technique for fistulae with aneurysmal dilatation

Researchers at St Michael's Hospital in Toronto, Canada, have reported on a modified buttonhole cannulation technique involving multiple cannulators, for use in chronic hemodialysis patients with problematic fistulae.

Fourteen patients who had fistulae with aneurysmal dilatation caused by repeated cannulation in a limited area underwent the modified buttonhole cannulation and were followed for 1 year. Buttonhole cannulation was successfully achieved in all fistulae and the procedure had no adverse effects on access flow or dynamic arterial or venous pressures during dialysis.

Duration of post-dialysis hemostasis decreased over the course of the study. Pain during cannulation was considerably less after 4 weeks and nurses found cannulation easier to perform with time. Blood oozing during dialysis ceased within 2 weeks of the procedure. Most skin abnormalities, such as ulceration and thinning, had disappeared by 6 months after buttonhole cannulation. No aneurysm progression was observed, and in two patients remodeling of the fistula and shrinkage of the aneurysm occurred. Three complications arose—septic arthritis, endocarditis and contact dermatitis—and were successfully treated. At the end of the study period, nine patients had progressed to self-cannulation and four patients were having hemodialysis at home.