GLOSSARY

BMI (BODY MASS INDEX)
Ratio of body weight in kilograms to the square of height in meters; BMI 25–29.9 kg/m^2 is considered overweight, and BMI ≥30 kg/m^2 is considered obese

RELATIVE RISK
Measure of how much a particular risk factor influences the risk of a specified outcome

MIDDLE MOLECULE
Toxic uremic solute with a molecular weight greater than 500 Da

not significantly altered by peritoneal dialysis. If a similar result is obtained in studies of hemodialysis populations, these hormones might prove to be useful prognostic indicators for guiding management of patients with end-stage renal disease.

Rachael Williams

Original article Obineche EN *et al.* (2006) Natriuretic peptide and adrenomedullin levels in chronic renal failure and effects of peritoneal dialysis. *Kidney Int* **69:** 152–156

Slowing the progression of renal disease with allopurinol

Patients with renal disease have reduced uric acid excretion, a problem that can cause kidney function to deteriorate even further. Results of a prospective, randomized, controlled trial indicate that allopurinol lowers serum uric acid levels and reduces the rate of renal degeneration in patients with mild to moderate chronic kidney disease.

Subjects received 100–300 mg/day of allopurinol plus standard therapy ($n=26$), or standard therapy alone ($n=26$). Standard therapy included antihypertensives and lipid-lowering drugs. Adverse events occurred in only one patient from the allopurinol group, who developed an urticarial skin rash and was prematurely withdrawn from the study.

After 12 months, allopurinol significantly reduced mean serum uric acid levels compared with baseline, by 0.23 mmol/l (3.87 mg/dl; $P<0.001$). There was a trend towards reduced serum creatinine concentrations in allopurinol-treated patients compared with controls. Worsening renal function (defined as a >40% increase in serum creatinine level) or dialysis dependence occurred in 46% of control patients, but in only 16% of those treated with allopurinol ($P=0.015$). Allopurinol had no significant effect on systolic blood pressure or proteinuria.

By decreasing serum uric acid levels, allopurinol might reduce hypertension, glomerular hydrostatic pressure or oxidative stress, which would in turn alleviate renal impairment. Allopurinol therapy might therefore be beneficial for patients with renal disease, subject to confirmation in larger trials with longer follow-up and subgroup analyses.

Rachael Williams

Original article Siu Y-P *et al.* (2006) Use of allopurinol in slowing the progression of renal disease through its ability to lower serum uric acid level. *Am J Kidney Dis* **47:** 51–59

High-flux dialysis might reduce cerebrovascular deaths in long-term hemodialysis patients

A secondary analysis of data from the Hemodialysis (HEMO) Study has enhanced our comprehension of the risk factors for cerebrovascular mortality in maintenance hemodialysis patients, and has strengthened the hypothesis that high-flux dialysis has a beneficial effect on the vascular system.

The randomized, controlled, multicenter trial included 1,846 hemodialysis patients. Mean follow-up was 2.84 years. At baseline, 19.5% of patients had a diagnosis of cerebrovascular disease (CBVD)—stroke, transient ischemic attack or carotid endarterectomy. Risk factors for baseline CBVD were increased age, presence of diabetes mellitus and cardiac disease (all $P<0.0001$). CBVD deaths occurred in 65 patients (event rate 1.2 per 100 patient-years) and were significantly associated with presence of diabetes mellitus ($P=0.032$), higher hematocrit levels ($P=0.005$), lower BMI ($P=0.002$), and lower albumin levels ($P=0.011$).

Although dialyzer flux and dose had no overall effect on CBVD death, subgroup analysis showed that patients without CBVD diagnosis at baseline were half as likely to die from CBVD if they received high-flux, as opposed to low-flux, dialysis ($P=0.016$). In addition, high-flux dialysis reduced the RELATIVE RISK of CBVD death by 71% in patients who had been on dialysis for longer than 3.7 years ($P=0.012$).

Similarly, previous analyses of HEMO study data revealed that high-flux dialysis reduced overall cardiac mortality by 20%. High-flux dialysis enhances MIDDLE MOLECULE removal and this might attenuate vascular disease progression. The authors suggest that studies to further assess the effect of this intervention on the vascular system of hemodialysis patients are needed.

Rachael Williams

Original article Delmez JA *et al.* (2006) Cerebrovascular disease in maintenance hemodialysis patients: results of the HEMO study. *Am J Kidney Dis* **47:** 131–138

High BMI is a modifiable risk factor for end-stage renal disease

Although some previous studies have found no link between high BMI and end-stage renal