

were nonsignificant trends towards increased clearance with the Polyflux® 6H dialyzer compared with the F3 or F4 dialyzers, and a trend towards decreased clearance with the Polyflux® 6H dialyzer compared with the F5 dialyzer. The authors calculated that the Polyflux® 6H dialyzer would be suitable for children weighing between 13 kg and 26 kg.

**Original article** Goldstein SL *et al.* (2007) Evaluation of the Polyflux® 6H dialyzer in pediatric patients receiving maintenance hemodialysis. *Int J Artif Organs* 30: 321–324

### Upper arm grafts versus upper arm fistulas following failure of initial forearm fistulas

Arteriovenous fistulas are believed to be superior to grafts for vascular access in hemodialysis patients, but it is unclear whether this holds true in patients with a previous fistula failure. A recent study analyzed data from 110 patients who experienced primary failure of an initial forearm fistula and had a subsequent access placed in their upper arm. Preoperative vascular mapping and clinical findings were used to decide whether the subsequent access was a graft ( $n=51$ ) or a second fistula ( $n=59$ ).

Patients in whom an upper arm fistula was created were significantly more likely to experience primary access failure than were those who received an upper arm graft (44% vs 20%;  $P=0.006$ ). Patients who received fistulas required more access interventions before successful cannulation was achieved (0.42/patient vs 0.16/patient;  $P=0.04$ ). Among 88 patients already on hemodialysis when they received their upper arm access, those with fistulas were catheter-dependent for longer than those with grafts (131 days vs 34 days;  $P<0.0001$ ) and suffered more bacterial catheter infections (1.3 episodes vs 0.4 episodes;  $P=0.003$ ). Median cumulative access survival was similar in the two groups, but when patients with primary access failure were excluded from the analysis, median cumulative access survival was longer in patients with fistulas (1,524 days vs 517 days;  $P=0.03$ ). Following access maturation, fewer interventions were needed to maintain access patency in patients with fistulas than in those with grafts (0.73/year vs 2.38/year;  $P<0.001$ ).

The authors conclude that trade-offs must be made when deciding which type of

access is most suitable for patients who have experienced forearm fistula failure.

**Original article** Lee T *et al.* (2007) Comparison of survival of upper arm arteriovenous fistulas and grafts after failed forearm fistula. *J Am Soc Nephrol* 18: 1936–1941

### Japanese study links hypercalcemia to poor mental health in hemodialysis patients

Depression and depressive symptoms are frequently reported among patients on hemodialysis. Within the hemodialysis population, patients with depressive symptoms are at a higher risk of death and have higher rates of dialysis withdrawal than do those without such symptoms. Few studies have attempted to determine whether there is an association between abnormal mineral metabolism and psychological disorders. Now, Tanaka *et al.* report a link between hypercalcemia and poor mental health in a population of Japanese patients on hemodialysis.

By pooling data from phases I and II of the Dialysis Outcomes and Practice Patterns Study, the researchers obtained information on serum corrected calcium, phosphorus and intact parathyroid hormone concentrations, and mental health status (as assessed by a questionnaire) for 4,115 Japanese patients. A significant correlation was found between hypercalcemia and mental health score. The 677 (16.5%) patients with a serum corrected calcium level of  $\geq 2.75$  mmol/l ( $\geq 11$  mg/dl) had a significantly lower mean mental health score than did the patients with serum corrected calcium levels of  $< 2.1$  mmol/l ( $< 8.4$  mg/dl), 2.1–2.55 mmol/l (8.4–10.2 mg/dl) or 2.55–2.75 mmol/l (10.2 mg/dl–11.0 mg/dl;  $P=0.04$ ,  $P=0.009$  and  $P=0.003$ , respectively). The relationship between serum corrected calcium level and mental health score was independent of age, sex, serum albumin and phosphorus concentrations, use of a vitamin D preparation, use of a calcium-containing phosphate binder and history of parathyroidectomy. No associations were found between mental health score and serum phosphorus concentrations or intact parathyroid hormone levels.

**Original article** Tanaka M *et al.* (2007) Hypercalcaemia is associated with poor mental health in haemodialysis patients: results from Japan DOPPS. *Nephrol Dial Transplant* 22: 1658–1664