

untreated controls. The ICMA group was older (mean age  $60 \pm 13$  years) and included 18 diabetics (50%), characteristics previously thought to predispose to adverse effects from ICMA. Comparing results at baseline with those at 2 weeks showed no significant changes in residual renal function (calculated as the average of 24 h urinary urea and creatinine clearance), peritoneal creatinine clearance, or daily urine volume in either group. Results were comparable between the two groups.

Several factors could have influenced these results, including the use of a minimum volume of contrast medium, the optimization of intravenous hydration prior to injection, and PD treatment status. Nonetheless, the results fail to substantiate previous reports on contrast agent administration and associated risk factors for decreased renal function in PD patients.

Pippa Murdie

**Original article** Moranne O *et al.* (2005) Effect of iodinated contrast agents on residual renal function in PD patients. *Nephrol Dial Transplant* [doi: 10.1093/ndt/gfi327]

## Pediatric renal transplant recipients should be monitored for bladder dysfunction

Children receiving renal transplants as a result of pre-existing urological disease are prone to develop lower urinary tract symptoms (LUTS) postoperatively. As bladder dysfunction can damage the new kidney, these patients must be monitored carefully. To determine whether children undergoing kidney transplantation because of nephrological disease should also be rigorously observed for such problems, researchers in The Netherlands studied LUTS in both groups.

The study included 30 of 59 children who received a renal transplant at a medical center in Nijmegen, The Netherlands, between January and May 2003. Of these 30 patients (16 male, mean age at data collection 14 years), 21 had underlying nephrological disease and 9 had underlying urological disease.

Frequency volume data were available for 23 children. Increased postoperative bladder capacity—which can lead to myogenic failure and incontinence—was seen in 12/16 children with nephrological disease and 6/7 urological disease patients. Mean bladder capacities in these children, corrected for growth retardation, were 175% and 207% of normal, respectively.

LUTS occurred very frequently, with only one patient experiencing none; presence of residual urine, urinary tract infection and hesitancy were particularly common events. Despite having larger bladder capacities than their younger counterparts, patients who were older at transplant and older at data collection experienced less incontinence.

Because of the high incidence of LUTS and increased bladder capacity in both groups of patients, the authors recommend that all children receiving renal transplants should be monitored for bladder dysfunction. Larger studies are needed to define which patient characteristics are useful indicators of bladder dysfunction following renal transplantation.

Rebecca Ireland

**Original article** Van der Weide MJA *et al.* (2006) Lower urinary tract symptoms after renal transplantation in children. *J Urol* 175: 297–302

## No effect of peritoneal dialysis on markers of cardiac function in renal failure

It is well established that high levels of circulating B-type NATRIURETIC PEPTIDE (BNP) and its N-terminal propeptide (NT-BNP) indicate impaired renal and cardiac function. C-type natriuretic peptide (measured as its N-terminal propeptide [NT-CNP], levels of which have not been previously reported in patients with renal failure) and ADRENOMEDULLIN (concentrations of which are known to be elevated in end-stage renal disease) are thought to be cardioprotective in this population. So, these four hormones have potential utility as prognostic markers. A small, prospective investigation aimed to determine the effects of peritoneal dialysis on levels of these peptides.

The study included 19 peritoneal dialysis patients at hospitals in the United Arab Emirates. Baseline plasma concentrations of BNP, NT-BNP, NT-CNP and adrenomedullin were considerably higher than normal in all subjects. Baseline levels of NT-CNP were positively associated with plasma creatinine concentrations (Spearman correlation coefficient  $r_s = 0.53$ ;  $P < 0.05$ ).

Plasma peptide levels were measured before, during and after peritoneal dialysis in 11 patients, and between peritoneal dialysis sessions in 8 control patients. Concentrations of BNP, NT-BNP, NT-CNP or adrenomedullin were

### GLOSSARY

#### NATRIURETIC PEPTIDE

A peptide produced by the heart and vasculature that has potentially protective effects on the kidneys (natriuresis), blood vessels (dilatation), heart (anti-growth and antifibrosis) and endocrine system (inhibition of renin and aldosterone secretion); the main site of production of the three subtypes (A, B, C) differs

#### ADRENOMEDULLIN

A peptide secreted mainly by the vascular endothelium; it has several effects within the cardiovascular (e.g. hypotensive), renal and renin-angiotensin systems