## Comparable risk of contrast-induced nephropathy with low-osmolar and iso-osmolar agents

Low-osmolar contrast agents are associated with a lower risk of contrast-induced nephropathy (CIN) than high-osmolar contrast media among patients with pre-existing renal dysfunction. The recently reported PREDICT (Patients with Renal Impairment and Diabetes Undergoing Computed Tomography) study investigated whether iso-osmolar contrast agents are associated with a further decrease in the risk of CIN.

The investigators randomly allocated 263 patients with diabetes and moderate to severe chronic kidney disease, who were scheduled to undergo contrast-enhanced multidetector CT, to receive either a low-osmolar (iopamidol 370; $n = 132$) or iso-osmolar (iodixanol 320; $n = 131$) intravenous contrast agent. Serum creatinine levels were obtained before and 48–72 h after contrast agent administration.

Baseline renal function was similar in the two groups. Among the 248 evaluable patients, the incidence of CIN—defined as an increase in serum creatinine level of ≥25%—was statistically similar in patients who received iopamidol 370 and those who received iodixanol 320 (5.6% vs 4.9%). Mean increase in serum creatinine level from baseline was 3.5 μmol/l in both groups. Subgroup analyses of high-risk patients (i.e. those with poorest baseline renal function and those given the highest doses of contrast agent) confirmed that the incidence of CIN was similar between groups.

The authors conclude that the risk of CIN is low in patients with diabetes and moderate to severe renal impairment who receive low-osmolar or iso-osmolar intravenous contrast medium, and that these two types of contrast agents confer a similar risk.

**Original article** Kuhn MJ *et al.* (2008) The PREDICT study: a randomized double-blind comparison of contrast-induced nephropathy after low- or isoosmolar contrast agent exposure. *AJR Am J Roentgenol* **191:** 151–157

## Study confirms long-term renal safety of annual zoledronic acid infusions

Intravenous administration of bisphosphonates such as zoledronic acid can reduce the risk of fractures in postmenopausal women with osteoporosis, but some studies have shown such treatment to be associated with deterioration in renal function. Boonen *et al.* recently reported renal safety results from HORIZON–PFT (Health Outcomes and Reduced Incidence with Zoledronic Acid Once Yearly—Pivotal Fracture Trial).

In total, 7,736 postmenopausal women with osteoporosis and creatinine clearance ≥30 ml/min who had not used intravenous bisphosphonates in the previous 2 years were randomly allocated to receive either placebo or 5 mg zoledronic acid as a 15 min intravenous infusion; two further infusions were given 12 months and 24 months later.

Serum creatinine levels 9–11 days after infusion increased by more than 44.2 μmol/l (0.5 mg/dl) from the preinfusion level in a higher percentage of zoledronic-acid-treated patients than placebo-treated patients (1.3% vs 0.4%; $P = 0.001$). However, serum creatinine levels returned to within 44.2 μmol/l (0.5 mg/dl) of the preinfusion level within 1 year in all zoledronic-acid-treated patients and in 80% of placebo-treated patients who had shown such increases. Over the 3 years of the study, mean changes in estimated creatinine clearance from baseline were similar in the two treatment groups, and there was no significant difference between groups in the percentages of patients experiencing a reduction in creatinine clearance, a creatinine clearance decrease of ≥30%, an increase in proteinuria or a renal adverse event.

The authors conclude that although annual zoledronic acid infusions can cause a transient reduction in renal function, long-term renal function is unaffected.

**Original article** Boonen S *et al.* (2008) Renal safety of annual zoledronic acid infusions in osteoporotic postmenopausal women. *Kidney Int* [doi:10.1038/ki.2008.193]

## No long-term effect of extracorporeal shockwave lithotripsy on renal function

The long-term effects of treating renal stones with extracorporeal shockwave lithotripsy are not fully known. Potential problems include hypertension, decreased renal function and stone recurrence. A study by El-Assmy *et al.* investigated the effect of this procedure on long-term renal function in patients with a