

Their retrospective study included 101 patients with amyloidosis and 188 control patients without amyloidosis who underwent native kidney biopsy at the Mayo Clinic, Rochester, MN. Standard screening procedures at the clinic ensured that patients with abnormal partial thromboplastin time, abnormal prothrombin time, abnormal international normalized ratio or uncontrolled hypertension did not undergo biopsy. Kidney biopsies were performed under real-time ultrasound guidance with a biopsy gun (Bard Biopty System, Bard, Covington, GA), and all patients underwent postprocedural ultrasonography to detect bleeding.

The overall incidence of bleeding after biopsy was comparable between patients with amyloidosis and controls (9.9% vs 10.6%). Major bleeding (defined as bleeding requiring intervention) occurred in four patients with amyloidosis and in four control patients (4.0% vs 2.1%). The rate of minor bleeding was also similar in the amyloidosis and control groups (5.9% vs 8.5%). In addition, the percentage of patients requiring blood transfusions and the total number of red blood cell units transfused were not significantly different between groups.

The authors conclude that kidney biopsies can be performed safely in patients with amyloidosis who do not have a hemostatic disorder or uncontrolled hypertension.

**Original article** Soares SM *et al.* (2008) Bleeding complications after transcutaneous kidney biopsy in patients with systemic amyloidosis: single-center experience in 101 patients. *Am J Kidney Dis* [doi:10.1053/j.ajkd.2008.05.022]

## FGF-23: a novel predictor of mortality in patients on hemodialysis?

In patients with kidney disease, the level of the phosphaturic hormone fibroblast growth factor 23 (FGF-23) is increased in order to maintain phosphate balance. Hyperphosphatemia is a known risk factor for death in this population; however, the relationship between FGF-23 level and mortality is unknown. By use of data from a prospective cohort study of 10,044 US patients who initiated hemodialysis in 2004–2005, Gutiérrez *et al.* attempted to clarify this issue.

Patients in the highest quartile of serum phosphate level (>1.8 mmol/l) had a 1.2-fold

greater risk of death than those in the quartile with normal serum phosphate levels (1.1–1.5 mmol/l). A case–control study of 200 participants who survived the first year of dialysis and 200 who did not showed that the median plasma level of C-terminal FGF-23 fragments (cFGF-23) was lower among survivors than among nonsurvivors (1,406 U/ml vs 2,260 U/ml;  $P < 0.001$ ). This trend persisted when each quartile of serum phosphate level was examined separately, apart from the highest quartile, in which the difference was not significant. After adjustment for case-mix factors and laboratory variables, each unit increase in the natural log-transformed cFGF-23 level was associated with a 1.8-fold increase in mortality risk. Patients in the highest quartile of cFGF-23 had a 5.7-fold greater risk of death than those in the lowest quartile.

Increased FGF-23 levels seem to predict mortality among incident hemodialysis patients independently of serum phosphate level and might provide a means of identifying patients with normal serum phosphate levels who could benefit from phosphate-lowering treatment.

**Original article** Gutiérrez OM *et al.* (2008) Fibroblast growth factor 23 and mortality among patients undergoing hemodialysis. *N Engl J Med* 359: 584–592

## Novel laparoscopic technique permits 'scar-free' donor nephrectomy

Natural body orifices such as the vagina and rectum offer concealed access points for potentially scar-free laparoscopic surgery (so-called 'natural orifice transluminal endoscopic surgery'). Gill and colleagues from the Cleveland Clinic, Cleveland, OH, have developed a related technique, whereby access is obtained via the umbilicus. They recently presented the first four cases of donor nephrectomy performed by use of this approach.

The first procedure was carried out on 28 November 2007. A single-access R-port was inserted into the abdomen via a 2 cm vertical intraumbilical incision and a 2–3 cm rectus fasciotomy, to enable entry of the laparoscope and instruments. After being freed, the kidney was enclosed in a polyurethane pouch and removed transumbilically, with extension of the rectus fascia incision and the skin incision as necessary.