

facilitate the clinical development of this simple and inexpensive test.

Individuals whose serum creatinine increased by at least 50%, from a baseline value of $<106.1 \mu\text{M}$ (1.2 mg/dl), within 6 days following ARDS study enrollment ($n=52$) were identified, and their biochemical parameters compared with those of controls ($n=86$). After adjusting for confounding factors, such as age, sepsis and APACHE III SCORE, urinary IL-18 values determined by ELISA were found to be predictive of development of AKI 24 h and 48 h—but not 72 h—prior to clinical diagnosis. A patient was 6.5 times more likely to develop AKI in the next 24 h if urinary concentration of IL-18 exceeded 100 pg/ml. Baseline urinary IL-18 level was also a strong independent predictor of mortality. By contrast, serum creatinine values did not correlate with development of AKI or mortality.

In the setting of acute lung injury, a urinary IL-18-based test seems to be superior to the standard serum-creatinine-based method of diagnosing AKI. Unlike creatinine, IL-18 is released in direct response to tubular injury, limiting the time lag between onset and detection of AKI.

Rachael Williams

Original article Parikh CR *et al.* (2005) Urine IL-18 is an early diagnostic marker for acute kidney injury and predicts mortality in the intensive care unit. *J Am Soc Nephrol* **16**: 3046–3052

Algorithm for the prevention of non-occlusive mesenteric ischemia

New dialysis methods might play a role in the increased incidence of non-occlusive mesenteric ischemia (NOMI), a dangerous condition that occurs most frequently in hemodialysis patients. Although intradialytic hypotension is a known risk factor, other contributing factors are unknown. Ori *et al.* carried out a retrospective, single-center analysis to investigate possible risk factors, and used their findings to construct an algorithm for the identification and treatment of high-risk patients.

The study included 20 patients (13 female, 7 male) who developed NOMI after dialysis for end-stage renal disease; 52 stable hemodialysis patients formed the control group. There were no significant differences in comorbid conditions or time on dialysis between the groups;

abnormal echocardiographic findings were common in both groups.

Hypotension was detected in 18/19 hemodialysis patients in the NOMI group during pre-NOMI dialyses. Lower serum albumin levels, hemoconcentration, leukocytosis and metabolic acidosis were the most common laboratory findings on admission for NOMI. The dosage of recombinant human erythropoietin was significantly higher ($P<0.05$) and vascular medial calcifications were significantly more common ($P<0.001$) in the NOMI group than in the control group.

Although the best approach is still uncertain, the authors suggest an algorithm for the prevention of NOMI in high-risk patients (e.g. those with atherosclerosis, vascular calcifications or hypoalbuminemia). Suggestions include using the hematocrit to determine the level of immediate hydration, avoiding hypotension, reducing recombinant human erythropoietin dosage, performing abdominal ultrasound followed by arteriography and/or water-soluble, opaque-enema CT scan, selective use of intra-arterial papaverine, monitoring post-dialysis hemoglobin levels and weight, and carrying out surgery within 24 hours if therapy is unsuccessful.

Rebecca Ireland

Original article Ori Y *et al.* (2005) Non-occlusive mesenteric ischemia in chronically dialyzed patients: a disease with multiple risk factors. *Nephron Clin Pract* **101**: c87–c93

No link between moderately high iron levels and mortality in hemodialysis patients?

Iron overload used to be a major cause of morbidity in maintenance hemodialysis patients. Management of anemia through administration of recombinant human erythropoietin has helped reduce the risk, but the relationship between the level of iron stores and survival is still unclear. A recent study has shown that increased iron store levels do not automatically equate to reduced survival in these patients.

Kalantar-Zadeh and associates analyzed data prospectively collected from 58,058 maintenance hemodialysis patients, most of whom also received erythropoietin treatment. They found that, following adjustment for inflammation and malnutrition, serum ferritin levels $\leq 1,200 \text{ ng/ml}$

GLOSSARY

APACHE III SCORE

The Acute Physiologic And Chronic Health Evaluation scoring system is an illness-severity score used in the intensive care setting and for critically ill patients

ELISA

Enzyme-linked immunosorbent assay