

performed in the absence of a functioning access for hemodialysis when an access was needed for emergency hemodialysis) in a high-volume US VAC. They report encouraging safety and efficiency data.

The authors prospectively evaluated all 157 emergent procedures performed in 136 patients during a 3-month period at the VAC. Most of the procedures were performed on nonfunctioning arteriovenous grafts (43%) or tunneled catheters (35%); procedures performed on arteriovenous fistulas (9%) or in cases without a pre-existing access (13%) were less common. At least one postprocedure dialysis treatment was successfully completed in 95% of cases.

Emergent procedures were carried out a median of 6.5 h after patients were referred to the VAC; 92% of emergent procedures occurred within 24 h of referral. Dialysis was successfully performed within 24 h of referral in 61% of cases, and within 48 h of referral in 90%. Minor complications, mainly grade 1 extravasation ($n=8$) or arterial embolus ($n=4$), occurred in 15 cases, and 6 major adverse events were reported within 2 weeks after the emergent procedure. Most (20 out of 21) adverse events occurred in patients who had undergone thrombectomy of an arteriovenous graft or fistula.

Original article Kian K *et al.* (2007) Efficiency and outcomes of emergent vascular access procedures performed at a dedicated outpatient vascular access center. *Semin Dial* 20: 346–350

Intensive insulin therapy associated with reduced risk of AKI in critically ill adults

A recent systematic review and meta-analysis has investigated whether intensive insulin therapy reduces the incidence of acute kidney injury (AKI) in hyperglycemic critically ill adults.

Five studies were included in the analysis, three of which were randomized controlled trials that compared conventional insulin therapy (target glucose 10–11 mmol/l [180–200 mg/dl]) with intensive insulin therapy (target glucose 4.4–5.6 mmol/l [80–100 mg/dl]) in hospitalized, hyperglycemic critically ill adults. These studies evaluated AKI (defined as a twofold increase in serum creatinine or a serum creatinine increase to at least 221 μ mol/l [2.5 mg/dl]) as a secondary outcome. The other two studies

included in the analysis were prospective cohort studies.

The primary analysis involved the 2,864 analyzable patients in the three randomized controlled studies. Among these patients, the risk of AKI was significantly lower with intensive insulin therapy than with conventional insulin therapy (relative risk [RR] 0.62, 95% confidence interval 0.41–0.96; $P=0.03$). Intensive insulin therapy also reduced the risk of AKI by 38% in an expanded analysis that included 5,165 analyzable patients across all five studies (RR 0.62, 95% CI 0.47–0.83; $P=0.001$). Among these 5,165 patients, the risk of hypoglycemia was significantly higher in patients treated with intensive insulin therapy than in those treated with conventional insulin therapy (RR 4.5, 95% CI 2.4–8.5; $P<0.00001$). According to the researchers, the clinical risk of severe hypoglycemia might outweigh the clinical benefit of intensive insulin therapy, but further research is needed.

Original article Thomas G *et al.* (2007) Insulin therapy and acute kidney injury in critically ill patients—a systematic review. *Nephrol Dial Transplant* [doi:10.1093/ndt/gfm401]

CRRT not superior to IRRT in hemodynamically stable patients with acute renal failure

A recent meta-analysis concluded that continuous renal replacement therapy (CRRT) is not superior to intermittent renal replacement therapy (IRRT) in terms of hemodynamic control, renal recovery and patient survival in hemodynamically stable adults with acute renal failure.

Searches of MEDLINE, EMBASE and the Cochrane Central Register of Controlled Trials were used to identify 15 randomized controlled trials that compared CRRT with IRRT in a total of 1,550 patients.

In-hospital mortality rates were similar in patients on CRRT and those on IRRT (relative risk [RR] 1.01, 95% CI 0.92–1.12; investigated in seven studies), as were mortality rates during intensive care (RR 1.06, 95% CI 0.90–1.26; determined from five trials). Analysis of data from three studies showed that patients on CRRT and those on IRRT were equally as likely to be off dialysis at discharge (RR 0.99, 95% CI 0.92–1.07). The risk of hypotension was also similar in the two patient groups (RR 0.92, 95% CI 0.72–1.16). CRRT patients had higher mean