The Journal of Vascular Access 2001; 2: 137-138

Vasculorama

A recent study in the Bronx found that HIV-infected dialysis patients do not have a higher rate of catheter related episodes of bacteremia or exit site infections than controls. This may be due to the frequent use of antibiotic prophylaxis in this group. The study also found that blacks were more prone to develop catheter exit site infections, and that the prophylactic use of antibiotics for AIDS related infections and the presence of high CD4 counts was associated with a lower risk of such exit sites infections. When infected, however, HIV patients had higher odds of having Gram negative or fungal organisms than controls (Mokrzycki MH et al, J Am Soc Nephrol 11: 2122).

In Spain a dialysis patient with exhausted AV sites had a Tesio catheter that was infected with *Pseudomonas aeruginosa*. Therapy with vancomycin, gentamicin, amikacin, and ceftazidine was ineffective, but there was a prompt and durable response to intravenous azthreonam (500 mg bid) and oral clarithromycin (250 mg tid). It appears that macrolides increase the permeability of *Pseudomonas* biofilms, further their destruction by decreasing the quantity of alginate and hexose in the biofilm, and inhibit the production of such biofilms by inhibiting polysaccharide synthesis (Gascon A et al, Am J Nephrol 20: 496).

A small dose ("minidose") of warfarin (1 mg/day) has been shown to prevent central vein catheter thrombosis in cancer patients, but according to a randomized study carried out on 105 patients in the Bronx was not effective in preventing malfunction of cuffed hemodialysis catheters (Mokrzycki MH, Kidney Int 59:1935). Yet many nurses in hemodialysis units have found that such minidoses (1-2 mg) reverse the clot formation frequently observed in the catheters and permanent accesses of their patients.

Finnish investigators report an over 90% success rate in salvaging failing arterio-venous fistulae – defined as delay in maturation, decrease in flow, recirculation, increase in venous pressure (>150 mmHg), or inability to obtain blood on puncture. They used an antegrade approach, puncturing the brachial artery with a 17 needle to perform an arteriogram, then advancing a guide urine followed by a balloon angioplasty catheter through the anastomosis, and performing angioplasty, pharmacomedical thrombolysis with urokinase, and stent insertion as necessary (Manninen Hi et al, Radiology 218: 711).

Brachial puncture, according to the above investigators, offers some advantages in that puncture is usually straightforward because the pulse in the hypertrophied artery in strong. Traversing the anastamosis is also simple. A potential for damaging the artery remains, but the complication rate (8%) may be no higher than with venous access, and major complications were encountered in only 4% in this Finnish series. There was also no evidence of accelerated athero-occlusive processes in the artery (ibid).

A novel approach to venous mapping prior to the creation of an arterio-venous fistula consists of using gadolinium compounds such as gadopentate dimeglumine as a contrast medium in a high-resolution digital subtraction angiography system. There was adequate opacification of the veins, and the risk of renal damage from the use of iodinated contrast agents was obviated (Geoffroy O et al, Kidney Int 59: 1491).

 1129-7298/137-02$01.00/0

A prospective study at seven US outpatient dialysis centers has found a vascular access infection rate of 3.5/100 patient months (ie in 3.5% of patients each month) ranging from 1.0 to 4.1%. Risk factors included use of catheters, albumin levels, patient hygiene and use of IV drugs, and frequent hospitalization. Offending organisms were *Staphylococcus aureus* (28%), coagulase negative *Staphylococcus* (25%), gram negative rods (22%) (Tokars JI, Am J Kidney Dis 37: 1232).

A large German multicenter study has found that nasal colonization with *Staphylococcus aureus* is very common in intensive care and general medical units and is a frequent source of bacteremia, a finding that has also been reported in hemodialysis patients. Eradication of bacterial colonies from the nasal cavities would seem to be an excellent way of preventing catheter infections. However, infectious disease specialists have been far from unanimous about the prophylactic use of mupirocin because of the frequent emergence of resistant strains, suggesting that other means of eradicating nasal colonization in carrier will need to be pursued (Von Eiff C et al, N Engl J Med 344: 1; Archer GL and Climo MW, Ibid 344: 55).

George Dunea, M.D. FRCP, FACP
Associate Editor

Reprint requests to:
Cook County Hospital
1825 West Harrion Street
Chicago, Illinois 60612, USA
e-mail: geodunea@aol.com