

Title: Long Term Implications of Dialysis Catheter Infections**Faculty Mentor**

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Research Project

Background: The majority of bacteremias in hemodialysis patients are caused by infection of vascular access catheters. The frequency of catheter-related bacteremia in several large case series has ranged between 2.5 and 5.5 episodes per 1000 catheter-days, which corresponds to an incidence of 0.9 to 2 episodes of bacteremia per catheter-year. Dialysis catheter-related bacteremia may also be associated with metastatic complications, such as osteomyelitis, endocarditis, septic arthritis, or epidural abscess. Metastatic infections have been observed in approximately 5 to 10 percent of catheter-dependent hemodialysis patients. Recently because of concerns of antibiotic resistance there has been a tendency for shorter use of antibiotics. So also because of difficulties with vascular access often attempts are made to salvage dialysis catheter. However whether shorter courses of antibiotics and catheter salvage therapy are associated with long term complications of metastatic infections is not known.

Hypothesis: We hypothesize that shorter courses of antibiotics and catheter salvage therapy will be associated with increased risk of metastatic infections.

Methods: We will conduct a retrospective study of all catheter related infections in dialysis patients undergoing hemodialysis at the University of Florida. We will assess duration of therapy as well as if catheter was removed, exchanged or salvaged. We will assess odds of re-infection as well as metastatic complications. We will do multivariable analysis to define factors that predict metastatic infection.

Funding: The division of nephrology has a full time statistician who will assist with the analysis. Funds needed for publication/presentation will be provided from the grant support to the faculty member.

Role of Student: The student will be involved with all aspects of the project. The student will abstract the data from EPIC, will help with the analysis and prepare the manuscript for publication.

Publications:

1. Hemodialysis Adequacy 2006 Work Group. Clinical practice guidelines for hemodialysis adequacy, update 2006. Am J Kidney Dis 2006; 48 Suppl 1:S2.
2. Allon M. Dialysis catheter-related bacteremia: treatment and prophylaxis. Am J Kidney Dis 2004; 44:779.