

**SPECTRUM OF POST-SURGICAL ACUTE RENAL FAILURE IN PATIENTS RECEIVING HEMODIALYSIS IN THE SURGICAL INTENSIVE CARE UNIT OF A TERTIARY UNIVERSITY HOSPITAL: THE NSARF EXPERIENCE**

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**BACKGROUND.** Post-surgical acute renal failure (PSARF) in the critically ill is associated with extremely high morbidity and mortality rates. Identifying the changing spectrum of PSARF helps facilitate quality improvement efforts, institute cost-effective models of hemodialysis and design successful interventional trials.

**METHODS.** We conducted an observational cohort study of 436 PSARF patients receiving hemodialysis from July 2002 to January 2005 in the surgical intensive care unit (SICU) of a tertiary university hospital in Taipei, Taiwan. A comprehensive data collection instrument captured over 100 variables throughout the course of PSARF. Patient characteristics, dialysis status, etiology of PSARF and major outcomes were determined and stratified by clinical site.

**RESULTS.** The mean age was 63.6 years and 63% of subjects were males. There was extensive comorbidity; 24% had underlying stage 5 chronic kidney disease, 48.2% had hypertension; 36.2% had diabetes mellitus, and 9.9% had chronic liver disease. The indications for dialysis were oliguria (83%), azotemia (59.8%) and fluid overload (28.5%). The etiologies of acute renal failure were acute tubular necrosis (68.1%) and hepatorenal syndrome (5%). Pre-dialysis APACHE II score was 20.16±5.71. The dialysis duration was 12.27±14.36 days. The median hospital length of stay was 49.46±63.76 days and SICU length of stay was 22.46±33.05 days. The in-hospital mortality rate was 66.1% and the rate of nonrecovery of renal function was 74%.

**CONCLUSION.** The spectrum of PSARF patients undergoing hemodialysis is characterized by a large burden of comorbid disease, extensive extrarenal complications, dialysis dependence and high mortality rate. This situation highlights the need for further multicenter observational and interventional studies in PSARF.

**Keywords:** post-surgical acute renal failure, end-stage renal disease, APACHE II, surgical intensive care unit