

MORTALITY PREDICTIONS WITH APACHE IV, MODS AND SAPS II SCORES IN ADULT ICU PATIENTS REQUIRING EMERGENT HEMODIALYSIS.

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We intended to determine if APACHE IV (Acute Physiology and Chronic Health Evaluation) scores, MODS (Multiple Organ Dysfunction Score) and SAPS II (Simplified Acute Physiology Score) for patients in the ICU with Acute renal failure (ARF) needing emergent Renal replacement therapy (RRT) correlate with outcomes after RRT.

We reviewed the charts of all patients who underwent emergent RRT for ARF in the ICU over an 18 month period in a tertiary care center. Data was collected to calculate the APACHE IV score, MODS and SAPS II scores on admission to the ICU. We correlated the above scores with the outcomes of these patients (death or discharge).

A total of 70 patient charts were reviewed. 43% of the patients died during hospitalization after receiving RRT and 57% of patients survived. In the group that survived the mean SAPS II score was 53.76, MODS score was 9.53 and the APACHE IV score was 86.6; in the group that died the mean SAPS II score was 58.39, MODS score was 8.93 and the APACHE IV score was 92. Cox Regression analysis showed that for every increase by 1 in the APACHE score, the hazard ratio for mortality increased by 2% ($p=0.04$). For every increase in MODS score by 1 hazard ratio lowers by 2% ($p=0.718$). For every increase in SAPS II score by 1 the hazard ratio increases by 1.2% ($p=0.362$). APACHE IV score correlated highest with mortality.

The patients in medical ICU with ARF requiring emergent RRT continue to have very high mortality rates. The mortality correlates with APACHE IV scores as shown by our previous study. We attempted to determine if MODS or SAPS II scores had a better correlation with mortality as they can be obtained by simpler calculations. But, APACHE IV proved to be a better score for mortality predictions. Further studies are needed to develop prognosticating scoring systems to help in risk stratification of these patients and APACHE IV would be a useful tool for such studies.