

P072

## P072 -Does baseline kidney function have an impact on outcomes of patients requiring renal replacement therapy on ITU?

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### Introduction

57.6% of patients in the UK have an episode of Acute Kidney injury (AKI) during their ITU admission, and 26% of them do not survive their acute hospital admission. This exceeds the mean mortality rate of 15% for all ITU admissions. Patients with co-morbidities are more likely to have poor outcomes if they develop an AKI in the ITU.

We decided to investigate the outcomes in patients admitted to the ITU who require renal replacement therapy (RRT). We aimed to determine if underlying CKD, and APACHE II score were associated with a difference in mortality.

### Method

We acquired data on patients admitted to the ITU between 2016-18. We identified patients requiring RRT, and looked at baseline creatinine, reason for admission, APACHE II score, number of days on RRT and outcome (death or discharge). We compared results across groups of AKI, CKD (those with a prior history of CKD but not requiring dialysis), and ESRD (those on dialysis prior to ITU admission). Results were compared to national outcomes as reported in the ICNARC programme summary 2016-17.

### Results

AKI group: 181 patients with AKI required RRT during their ITU admission over the 2 year period. The reasons for admission included pneumonia (n=50), other infections (n=40), surgical (n=15), septic shock (n=13), and toxins/drugs (n=12). 44.8% (n=81) of patients died during their inpatient stay. This compares to a mean mortality of 13.7% for all critical care admissions (ICNARC 2016-17). Mean APACHE II score for AKI patients on RRT was 22, compared to 16 for all ITU admissions (ICNARC) over the same period. ICNARC Physiology score was 32 in the AKI group, compared to 16 for all admissions. AKI patients spent a mean of 6.2 days on ITU, compared to 4.8 for all patients.

CKD group: 31 patients in this group required RRT. Pneumonia (n=7), and other infections (n=7) were the most common reasons for admission. Hospital mortality was 29%. Mean APACHE II score was 24, and ICNARC Physiology mean score was 23. Length of stay was 4.8 days.

ESRD group: 54 patients in this group required RRT. Reasons for admission were pneumonia (n=8), other infections (n=11), septic shock (n=9) and cardiogenic shock (n=5). Hospital mortality was 37%. Mean APACHE II score was 33, and ICNARC Physiology mean score was 34 for ESRD patients. Mean length of stay was 6 days.

### Conclusion

The main reasons for admission of patients requiring RRT are pneumonia and other infections. Higher APACHE II score, appears to predict a poor outcome in RRT patients. Outcomes in the groups with AKI, and ESRD were worse than patients with CKD. Our data hasn't been able to demonstrate a clear relationship between baseline creatinine level and mortality, which may be secondary to confounders of co-morbidities which we were unable to adjust for.