Introduction:
ICU-patients with acute kidney injury (AKI) requiring renal replacement therapy (RRT) are at risk for infections [1,2]. In this study we evaluated the incidence of infection in ICU patients with and without less severe AKI. Finally, impact on outcomes was explored.

Methods:
This is a retrospective study on the PDMS (Protection Data Management System) of the 4 adult ICUs of a University Hospital. AKI was assessed on KDIGO criteria (creatinine (Scr) and urine output), during the first 7-d of ICU stay. Infection was validated in the PDMS by a team of ICU specialists.

Results:
During a 4-year period, a total of 7485 subjects were enrolled. AKI was diagnosed in 64.7% of patients during ICU stay. AKI patients were older (63 vs. 59 y, p=0.001), had higher SAPS 2 (57 vs. 41, p<0.001), and had more urgent ICU admission (64% vs. 48%, p<0.001). More AKI patients had mechanical ventilation (55% vs. 41%, p<0.001) and vasopressors on d-1 (47% vs. 23%, p<0.001). AKI stage 1, 2, and 3 was present in 25.5%, 28.0% and 11.1% of patients. More AKI patients had infection (57% vs. 28%, p<0.001) and increasing AKI stages were associated with higher infection rates (AKI-0: 28%; AKI-1: 55%, AKI-2: 55%, AKI-3: 69%, p<0.001). We observed 2-3 times higher mortality in AKI patients with infection, and a stepwise increase of mortality with increasing AKI stages. After correction for infection and other confounders we found that all AKI stages were associated with in-hospital mortality (ORs AKI-1: 1.7, AKI-2: 2.0, AKI-3: 3.6, all p< 0.001).

Conclusion:
Over half of AKI patients experienced an episode of infection and increasing AKI severity was associated with higher infection rate. AKI patients with infection had marked higher mortality, suggesting that infection was an important driver of outcome. However, after adjustment, AKI stages had strong association with hospital mortality.

References:
In-hospital mortality in patients with and without infection and different AKI stages

AKI, Acute Kidney Injury; Mort, Mortality