Introduction:
Biotransformation of 25-hydroxyvitamin D to active 1,25(OH)₂D occurs primarily in the kidney. Our aim was to explore whether this process was altered in patients with acute kidney injury (AKI).

Methods:
Consecutive patients admitted to critical care at a tertiary hospital were recruited. The AKI group comprised patients with KDIGO stage II or stage III AKI; the non-AKI group were patients requiring cardiovascular or respiratory support, but with no AKI. Vitamin D metabolite concentrations were measured on days 0, 2 and 5. Statistical analysis included comparison between groups at each time point, and longitudinal profiles of vitamin D metabolites.

Results:
Interim analysis of 55 participants (44% of the recruitment target) showed that 1,25(OH)₂D concentrations were significantly lower in patients with AKI at day 2 and day 5. Considering longitudinal changes, 25-hydroxyvitamin D profiles were not different between the groups (figure 1) but there was a trend towards a longitudinal increase in 1,25(OH)₂D in patients without AKI, which was not seen in AKI patients (figure 2).

Conclusion:
Interim analysis indicates significant differences in concentrations of 1,25(OH)₂D, but not 25(OH)D, in critically ill patients with AKI. Recruitment is ongoing and further results are awaited.
Longitudinal changes in 1,25(OH)2D. A significant difference in the longitudinal profiles of patients with AKI and those with no AKI was found ($p=0.047$). This effect was attenuated with a statistical correction for unequal variance between groups.