

中文題目：重症病人的尿液量在急性腎損傷的角色與應用

英文題目：The Role of Modified Urine Output Criteria, in Critically Ill Patients with Acute Kidney Injury

作者：陳幸祐¹，邱鼎育²

服務單位：¹高雄長庚醫院內科部，²高雄長庚醫院內科部-腎臟科

Background:

Acute kidney injury(AKI) is associated with dismal outcomes in critically ill patients. However, the definition of acute kidney injury from KDIGO classification system(2012 AKI guideline) is based on creatinine criteria or urine output criteria or a combination of the two. In general practice, especially at general ward with high nurse-patient ratios, recording precise daily urine output is difficult. Nevertheless, it is practicable in intensive care unit, with relatively reasonable nurse-patient ratios, with every 8 hour accurate urine output record in 8-hour nursing shifts. Hence, we adjusted the 2012 AKI guideline based on urine output, stage 1 with urine output < 0.5ml/kg/hr for 8-16 hours, stage 2 with urine output < 0.5ml/kg/hr for 16-24 hours, and stage 3 with urine output < 0.5ml/kg/hr for over 24 hours. With above modified AKI urine output criteria, we aimed at finding the acute kidney injury identification based on modified urine output criteria, and the associations with poor outcomes(AKI progressed to receive renal replacement therapy, discharge under critical status or mortality).

Method:

We collected the clinical data of patients admitted to the CCU in Kaohsiung Chang Gung Memorial Hospital, from Oct 1st 2020 to Oct 31st 2020. The exclusion criteria were ICU stays for < 48 hours, and end-stage renal disease under regular renal replacement therapy.

Results:

A total 68 patients were included in this retrospective cohort study, 52 male patients, and 16 female patients. Among these patients, acute kidney injury in 3 patients progressed into receiving renal replacement therapy, 2 intermittent hemodialysis and 1 sustained low-efficiency dialysis; 5 patients discharged under critical status or ended up with mortality. There were total 49 patients having acute kidney injury based on modified AKI urine output criteria, 11 patients with AKI stage 1, 6 patients with AKI stage 2, and 32 patients with AKI stage 3. There was no significant difference with age, gender, body weight, hospital stay and CCU stay, comparing AKI group to non-AKI group, and there was also no significant difference in AKI different stages. However, the hospital stay and CCU stay were significantly longer in the group of discharge under critical status or mortality comparing to the surviving group. As for comparisons between the renal replacement

group to the non-renal replacement group, it showed significantly longer in hospital stay and CCU stay in the renal replacement group.

Conclusion:

In the small preliminary study, we did not see different clinical characteristics between AKI and non-AKI group based on modified AKI urine criteria. We do see the longer stay, whatever in hospital or CCU, in those whose AKI progressed into receiving renal replacement therapy, indicating once entering to the renal replacement therapy, it was associated with longer hospital or CCU stay. However, a larger sample size and more comprehensive clinical data needs to be further investigated, in order to apply the modified AKI urine criteria in our daily practice.