

Urinary neutrophil gelatinase-associated lipocalin (NGAL) in critically ill patients with COVID-19

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Objective

To investigate the role of AKI biomarker in critically ill patients with coronavirus disease 2019 (COVID-19).

Method

- retrospective cohort study
- ICU patients with COVID-19
- AKI during ICU stay was diagnosed by KDIGO criteria
- Outcome: AKI, length of hospital / ICU stay, or mechanical ventilation (MV).

Results

- 17 consecutive adult ICU patients were included.
- Patients with AKI (N = 10) showed higher urinary NGAL at ICU admission than those without AKI (N = 7) (**Figure 1**).
- Max urinary NGAL level < 48h from admission was correlated with the length of mechanical ventilation (p=0.004, **Figure 2**) and ICU stay (p=0.009).

Figure 1. Urinary NGAL level in ICU patients with COVID-19

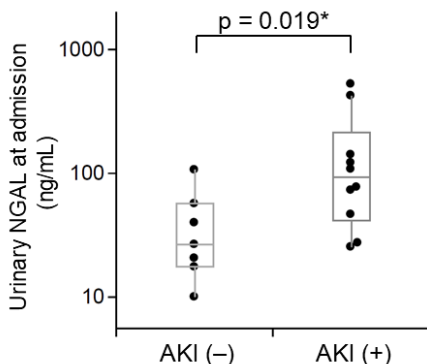
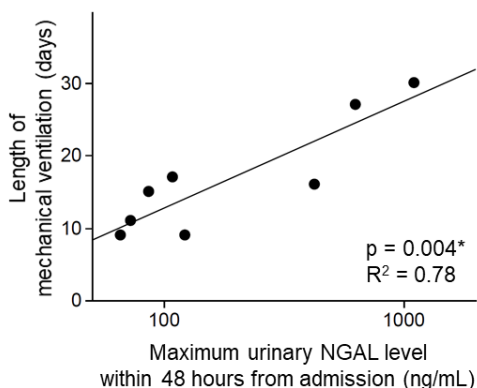


Figure 2. Urinary NGAL level and length of MV in patients who required ventilator (N=8)



Discussion & Conclusion

The urinary NGAL level was significantly associated with AKI diagnosis in critically ill COVID-19 patients. Furthermore, urinary NGAL in early stage of ICU stay may reflect severity of lung injury.

Urinary NGAL may be used as a multiple organ injury marker, representing epithelial cells damage and viral load of COVID-19.