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Incidence of Acute Kidney Injury Among Admitted Adult Patients with Coronavirus Disease (COVID-19) in a Tertiary Private Hospital from July 2020 to July 2022

Mark Gilben Silao[1], Joyce Rosario Matoza-Serna[2]
[1]Department of Internal Medicine, Remedios Trinidad Romualdez Hospital, Philippines
[2]Department of Internal Medicine - Nephrology, Remedios Trinidad Romualdez Hospital, Philippines

Objectives: The study was conducted to evaluate the incidence, clinical characteristics, and risk factors associated with AKI among confirmed COVID-19 patients in a tertiary hospital.

Methods: The study utilized a retrospective cross-sectional among COVID-19 adult patients admitted at Remedios Trinidad Romualdez Hospital, Tacloban City, Philippines, who had at least 2 serum creatinine determination, at least 72 hours hospitalization and not on maintenance renal replacement therapy. Clinical demographics, laboratory profile, COVID-19 disease severity, presence of AKI and its severity were described. Descriptive statistics and Pearson product correlation test were utilized.

Results: The findings showed that AKI was present in 45 out of the 116 COVID-19 respondents; the incidence was 38.8%, with stage 1 accounting for most of the cases (34.5%). COVID-19 disease severity was the only risk factor found to have a significant relationship with the presence of AKI, showing a correlation coefficient of .274 with a p-value of .003. Among these COVID-19 patients who developed AKI, 53% were male, 84.4% were 60 years old and above, with a mean age of 67.7 years old. Moreover, among co-morbid conditions, hypertension and diabetes were present in 21.6% and 15.5% of the cases, respectively. Some, or 23.3%, had COVID-19 moderate illness. Nevertheless, none of the participants underwent renal replacement therapy.

Conclusions: In summary, this investigation compared to previous reported literature and systematic review revealed a high AKI incidence at 38.8%. Whereby, majority had AKI stage 1 and there was a strong correlation between the degree of COVID-19 illness and the severity of AKI. Early identification of renal impairment in newly admitted COVID-19 patients may improve care and reduce complications and mortality.

Table 1. Cross-Tabulation between Patient's Profile Variables and Presence of Acute Kidney Injury (AKI) Table 2. Correlation between COVID-19 Patients' Clinical and Demographic Variables and Severity of Acute Kidney Injury using KDIGO guidelines