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MASS SCREENING AND THE LOW RATES OF ACUTE KIDNEY INJURY AMONG COVID-19 PATIENTS IN HONG KONG

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BACKGROUND AND AIMS: Renal involvement in COVID-19 under vigilant public health surveillance, including mass screening and early hospitalization is less well-characterized. We assessed renal involvement of COVID-19 patients in Hong Kong, including the association with risk factors, length of hospitalization, critical presentation and mortality.

METHOD: Linked electronic records of all confirmed patients from 5 major designated hospitals were extracted. Primary outcome was the incidence of in-hospital AKI. Secondary outcomes were AKI-associated mortality, incident RRT, intensive care admission, prolonged hospitalization and disease course (defined as >90th percentile of hospitalization duration and duration from symptom onset to discharge, respectively), and change of eGFR. Patients were further stratified into being symptomatic or asymptomatic.

RESULTS: Patients were characterized by young age (median:38.4, IQR:28.4-55.8 years old) and short time (Median:5, IQR:2-9 days) from symptom onset to admission. Among the 591 patients, 22 (3.72%) developed AKI and 4 (0.68%) required RRT. AKI increased the odds of prolonged hospitalization and disease course by 2.0 and 3.5 folds, respectively. Estimated GFR 24 weeks post-discharge reduced by 7.51 and 1.06 ml/min/1.73m² versus baseline (at admission) in the AKI and non-AKI groups, respectively. The incidence of AKI was comparable between asymptomatic (4.8%) and symptomatic (3.7%) patients.

CONCLUSION: The overall rate of AKI among COVID-19 patients in Hong Kong is low, which could be attributable to a vigilant screening program and early hospitalization. Among patients who developed in-hospital AKI, the duration of hospitalization is prolonged and kidney function impairment can persist for up to 6 months post-discharge. Mass surveillance for COVID-19 is warranted in identifying asymptomatic subjects for earlier AKI management.