

MO357

ACUTE KIDNEY INJURY IN HOSPITALIZED COVID-19 PATIENTS: A MULTICENTRE STUDY BY TURKISH SOCIETY OF NEPHROLOGY

İzzet Hakkı Arkan¹, Savas Ozturk², Bulent Tokgoz³, Belda Dursun⁴, Nurhan Seyahi⁵, Sinan Trabulus⁶, Mahmud Islam⁶, Yavuz Ayar⁷, Numan Gorgulu⁸, Serhat Karadağ⁹, Mahmut Gok⁹, Esra Akcali¹⁰, Feyza Bora¹¹, Zeki Aydın¹², Eda Altun¹³, Elbis Ahbab Dal¹⁴, Mehmet Polat¹⁵, Zeki Soypacaci¹⁶, Ebru Gok Oguz¹⁷, Sumeyra Koyuncu³, Hulya Colak¹⁸, İdris Sahin¹⁹, Murside Esra Dolarslan²⁰, Özant Helvacı²¹, İlhan Kurultak²², Zehra Eren²³, Hamad Dheir²⁴, MELIKE BETUL OGUTMEN²⁵, Dilek Guven Taymeç²⁶, Dilek Gibyeli Genek²⁷, Sultan Ozkurt²⁸, Elif Ari Bakir²⁹, Enver Yuksek³⁰, Tuncay Sahutoglu³¹, Ozgur Akin Oto³², Gulsah Boz³³, Sengul Erkan³⁴, Ekrem Kara³⁵, Z. Serhan Tuglular¹

¹Marmara University School of Medicine, Department of Internal Medicine, Division of Nephrology, Istanbul, Turkey, ²Haseki Training and Research Hospital, Department of Nephrology, Istanbul, Turkey, ³Erciyes University School of Medicine, Department of Internal Medicine, Division of Nephrology, Kayseri, Turkey, ⁴Pamukkale University Medical School, Department of Internal Medicine, Division of Nephrology, Denizli, Turkey, ⁵Istanbul University, Cerrahpasa Medical Faculty, Department of Nephrology, Istanbul, Turkey, ⁶Zonguldak Ataturk State Hospital, Division of Nephrology, Zonguldak, Turkey, ⁷University of Health Sciences, Faculty of Medicine, Bursa City Hospital, Division of Nephrology, Bursa, Turkey, ⁸University of Health Sciences, Istanbul Bagcilar Training and Research Hospital, Department of Nephrology, Istanbul, Turkey, ⁹Sultan 2. Abdulhamid Han Training and Research Hospital, Department of Nephrology, Istanbul, Turkey, ¹⁰Mersin University Faculty of Medicine, Department of Nephrology, Mersin, Turkey, ¹¹Akdeniz University Faculty of Medicine, Department of Internal Medicine, Division of Nephrology, Antalya, Turkey, ¹²University of Health Sciences, Kocaeli Darica Farabi Training and Research Hospital, Department of Nephrology, Kocaeli, Turkey, ¹³Golcuk Necati Celik State Hospital, Division of Nephrology, Kocaeli, Turkey, ¹⁴Sisli Hamidiye Etfal Education and Research Hospital, Department of Nephrology, Istanbul, Turkey, ¹⁵Nevsehir State Hospital, Division of Nephrology, Nevsehir, Turkey, ¹⁶University of Katip Celebi, Ataturk Training and Research Hospital, Department of Nephrology, Izmir, Turkey, ¹⁷University of Health Sciences, Diskapi Yildirim Beyazit Education and Research Hospital, Department of Nephrology, Ankara, Turkey, ¹⁸University of Health Sciences, Tepecik Education and Research Hospital, Division of Nephrology, Izmir, Turkey, ¹⁹Inonu University Faculty of Medicine, Department of Internal Medicine, Division of Nephrology, Malatya, Turkey, ²⁰University of Health Sciences, Trabzon Kanuni Education and Research Hospital, Division of Nephrology, Trabzon, Turkey, ²¹Yildirim Beyazit University Yenimahalle Research and Training Hospital, Division of Nephrology, Ankara, Turkey, ²²Trakya University Faculty of Medicine, Department of Nephrology, Edirne, Turkey, ²³Alanya Alaaddin Keykubat University School of Medicine, Department of Internal Medicine, Division of Nephrology, Antalya, Turkey, ²⁴Sakarya University Medical Faculty Education and Research Hospital, Department of Internal Medicine, Division of Nephrology, Sakarya, Turkey, ²⁵University of Health Sciences, Haydarpasa Numune Education and Research Hospital, Division of Nephrology, Istanbul, Turkey, ²⁶Kocaeli State Hospital, Nephrology and Dialysis Department, Kocaeli, Turkey, ²⁷Mugla Sitki Kocman University, Faculty of Medicine, Department of Nephrology, Mugla, Turkey, ²⁸Eskisehir Osmangazi University Faculty of Medicine, Department of Nephrology, Eskisehir, Turkey, ²⁹Bahcesehir University Hospital, Department of Nephrology, Istanbul, Turkey, ³⁰University of Health Sciences, Gaziyaşargil Training and Research Hospital, Department of Nephrology, Diyarbakir, Turkey, ³¹Sanliurfa Mehmet Akif Inan Training and Research Hospital, Nephrology Unit, Sanliurfa, Turkey, ³²Istanbul University Istanbul Medical Faculty, Department of Internal Medicine, Division of Nephrology, Istanbul, Turkey, ³³Kayseri City Training and Research Hospital, Division of

Nephrology, Kayseri, Turkey, ³⁴Health Science University, Kocaeli Derince Education and Research Hospital, Division of Nephrology, Kocaeli, Turkey and ³⁵Recep Uzmani Tayyip Erdogan University, Faculty of Medicine, Department of Internal Medicine, Division of Nephrology, Rize, Turkey

BACKGROUND AND AIMS: Acute kidney injury (AKI) is common in coronavirus disease-2019 (COVID-19) and the severity of AKI is linked to adverse outcomes. In this study, we investigated the factors associated with in-hospital outcomes among hospitalized patients with COVID-19 and AKI.

METHOD: In this multicenter retrospective observational study, we evaluated the characteristics and in-hospital renal and patient outcomes of 578 patients with confirmed COVID-19 and AKI. Data were collected from 34 hospitals in Turkey from March 11 to June 30, 2020. AKI definition and staging were based on the Kidney Disease Improving Global Outcomes criteria. Patients with end-stage kidney disease or with a kidney transplant were excluded. Renal outcomes were identified only in discharged patients.

RESULTS: The median age of the patients was 69 years, and 60.9% were males. The most frequent comorbid conditions were hypertension (70.5%), diabetes mellitus (43.8%), and chronic kidney disease (41.5%). The proportions of AKI stages 1, 2, and 3 were 54.0%, 24.7%, and 21.3%, respectively. 291 patients (50.3%) were admitted to the intensive care unit. Renal improvement was complete in 80.7% and partial in 17% of the patients who were discharged. Renal outcomes were worse in patients with AKI stage 3 or baseline CKD. The overall in-hospital mortality in patients with AKI was 38.9%. By multivariate Cox regression analysis, age (hazard ratio [HR] [95% confidence interval (95%CI)]: 1.01 [1.0-1.03], p = 0.035], male gender (HR [95%CI]: 1.47 [1.04-2.09], p = 0.029), diabetes mellitus (HR [95%CI]: 1.51 [1.06-2.17], p = 0.022) and cerebrovascular disease (HR [95%CI]: 1.82 [1.08-3.07], p = 0.023), serum lactate dehydrogenase (greater than two-fold increase) (HR [95%CI]: 1.55 [1.05-2.30], p = 0.027) and AKI stage 2 (HR [95%CI]: 1.98 [1.25-3.14], p = 0.003) and stage 3 (HR [95%CI]: 2.25 [1.44-3.51], p = 0.0001) were independent predictors of in-hospital mortality. The in-hospital mortality rates across AKI stages by age, gender, and diabetes mellitus were shown in the Figure.

CONCLUSION: Advanced-stage AKI is associated with extremely high mortality among hospitalized COVID-19 patients. Age, male gender, comorbidities, which are risk factors for mortality in patients with COVID-19 in the general population, are also related to in-hospital mortality in patients with AKI. Renal problems continue in a significant portion of the patients who were discharged.

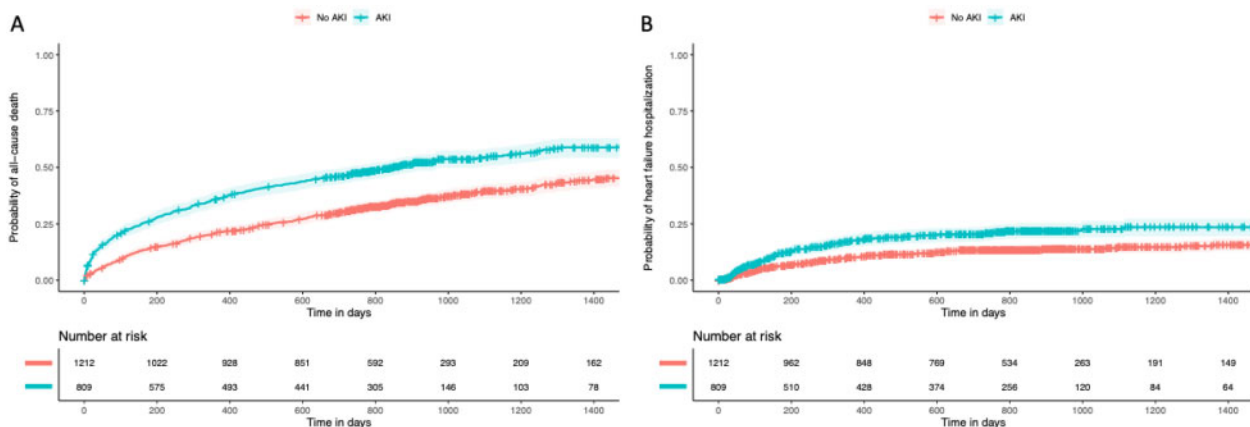


Figure 2 Kaplan Meier of AKI on overall mortality (A), heart failure hospitalization (B).

MO357 **Figure:** The in-hospital mortality rate across acute kidney injury (AKI) stages by age (A), gender (B), and diabetes mellitus (C)