Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

High rates of long-term renal recovery in survivors of coronavirus disease 2019–associated acute kidney injury requiring kidney replacement therapy

To the editor: Although acute kidney injury requiring kidney replacement therapy (AKI-KRT) is an important and severe complication in patients with coronavirus disease 2019 (COVID-19), data on its long-term outcomes are currently limited. Previous studies reported that 65% to 70% of patients with AKI-KRT had recovered from dialysis dependency at the time of hospital discharge.[1,2] However, long-term renal outcomes are unknown, because post-hospital follow-up after COVID-19–associated AKI in previous studies was limited to short observational periods.[1,3] We retrospectively analyzed renal outcomes in 74 hospitalized patients with COVID-19 and AKI-KRT in a large tertiary care center in Berlin, Germany, between March and June 2020. Patients were predominantly male (74.3%); the median age was 65 years; and the median baseline estimated glomerular filtration rate was 76.5 ml/min per 1.73 m^2 (Supplementary Table S1). All patients were treated in intensive care units at the time of AKI-KRT onset; 98.6% of patients were mechanically ventilated, and 39.2% received extracorporeal membrane oxygenation therapy. COVID-19–specific therapies included corticosteroids (68%), hydroxychloroquine (4.1%), anakinra (8.1%), immunoglobulins (6.8%), tocilizumab (1.4%), and lopinavir-

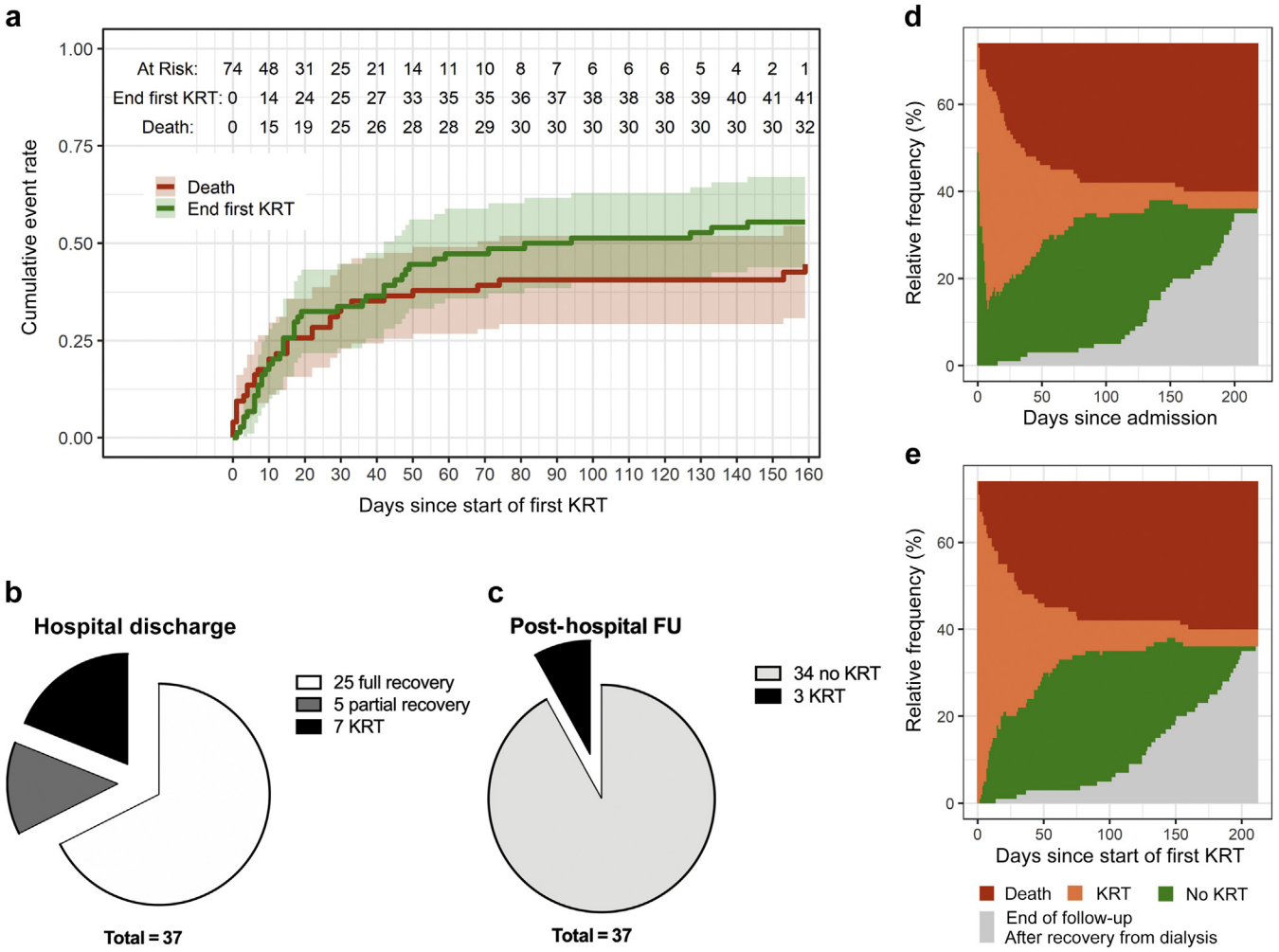

Figure 1 | Renal outcomes after coronavirus disease 2019–associated acute kidney injury requiring kidney replacement therapy (KRT).(**a**) Cumulative incidence function for the end of first KRT, with death as a competing risk. (**b**) Renal outcome of discharged survivors at hospital discharge. (**c**) Renal outcome of discharged survivors at post-hospital follow-up (FU). (**d,e**) Course of dialysis dependency with daily patient data as stacked bar chart with (**d**) hospital admission or (**e**) start of KRT as the start date.

ritonavir (1.4%) (Supplementary Table S1). On October 21, 2020, after a median follow-up of 151 days (interquartile range 128–192 days) post-initiation of KRT, 36 patients (48.6%) had died during hospitalization, 1 patient (1.4%) was still hospitalized, and 37 (50%) had been discharged. In discharged survivors, the median overall duration of KRT was 27 days (interquartile range 11–50 days). At the end of follow-up, 3 patients (8.1%) were KRT-dependent while the remaining 34 patients (91.9%) had achieved variable degrees of renal recovery, including 23 patients (62.2%) with full renal recovery (Figure 1; Supplementary Table S1). These findings indicate that renal recovery is common in COVID-19 survivors even after long periods of KRT requirement during AKI. This information may be of value for patients with COVID-19 and their clinicians when it comes to deciding about the initiation or continuation of KRT.

SUPPLEMENTARY MATERIAL

Supplementary File (PDF)

Table S1. Patient characteristics and outcomes.

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3. Chan L, Chaudhary K, Saha A, et al. AKI in hospitalized patients with COVID-19. *J Am Soc Nephrol*. 2021;32:151–160.

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Two episodes of severe acute respiratory syndrome coronavirus 2 infection in a patient on chronic hemodialysis: a note of caution

To the editor: Knowledge of coronavirus disease 2019 patterns in frail patients is still incomplete. Patients on chronic hemodialysis have a high risk of both infection and severe disease because of their fragility and unavoidable health care–related contacts.

Data from France in December 2020 show that the cumulative incidence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections reached 9% in the population on hemodialysis, with a mortality of 15% (Bulletin of the French Agency of Biomedicine, December 14, 2020). The diagnosis may be challenging: false negatives are frequent, and the persistence of positivity may be prolonged.

In this regard, we report an 89-year-old man on chronic hemodialysis for end-stage kidney disease secondary to nephroangiosclerosis and in the third month of palliative chemotherapy with 5-fluorouracil for metastatic liver cancer. He was screened because of a positive cluster in his nursing home. He was found positive for SARS-CoV-2 by a nasopharyngeal polymerase chain reaction test on November 5, 2020 (cycle threshold [Ct] for the RNA-dependent RNA polymerase [RdRp] gene [Ct_{RdRp} 22]; Ct for the nucleoprotein [N] gene [Ct_N 20]; Ct for the positive control [pos_ctrl] [Ct_{pos_ctrl} 30]; EurobioPlex SARS-CoV-2 Multiplex, Eurobio Scientific, Les Ulis, France) with no detectable anti–SARS-CoV-2 total IgG (Elecsys Anti-SARS-CoV-2 S assay, Roche, Switzerland). He was hospitalized for surveillance from November 6–13 in the COVID unit at the Centre Hospitalier Le Mans, where he remained asymptomatic, and no imaging studies nor specific treatment was performed. Two polymerase chain reaction SARS-CoV-2 tests resulted negative on November 11th and 13th; isolation measures were discontinued, and he resumed treatment in his usual dialysis center. On November 27th, the patient experienced shivering during the dialysis session; a chest computed tomography scan showed right basal consolidation (Figure 1a), and amoxicillin/clavulanic acid was empirically started. On December 2nd, his clinical conditions worsened with dyspnea and an oxygen saturation of 90%. A chest computed tomography scan showed bilateral pulmonary honeycombing, highly suggestive of coronavirus disease 2019 (Figure 1b); the diagnosis was confirmed by a positive polymerase chain reaction SARS-CoV-2 nasopharyngeal test (Ct for the envelope protein [E] gene [Ct_E 25.6]; Ct_{RdRp} 28.9; Ct_N 28.9; Allplex 2019-nCoV Assay, Seegene Inc., Seoul, South Korea); the anti–SARS-CoV-2 IgG titer was 4.26 U/ml (normal values $<$ 0.8). At the time of the present report, he was slowly