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.

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Kidney International (2021) **100,** 938–939; https://doi.org/10.1016/j.kint.2021.07.016

Should vaccination against COVID-19 be mandated in patients on the transplant waiting list?

To the editor: Concordant studies report a very high mortality rate during coronavirus disease 2019 (COVID-19) infection in kidney transplant recipients (KTRs). The 30-day cumulative incidence of death is 18% in a French national cohort.[1] Another study reported a mortality incidence of 32% among KTRs hospitalized for COVID-19 infection.[2] Just as misfortunes never come one at a time, these patients, along with having vulnerability to infection, experienced a low rate of immunization after complete vaccination.[3,4] Moreover, cases of severe COVID-19 occurring after complete vaccination have been reported in KTRs.[5]

By contrast, dialysis patients, even when older and frail, have a robust and sustained response to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) vaccine.[6–13] Even though hemodialysis patients may have significantly lower anti–SARS-CoV-2 S antibody titers than do healthy individuals,[10] we reported that a third dose enhanced the humoral response in almost all patients.[11] Thus, it is possible that patients vaccinated after transplantation would have only a 1 in 2 chance of responding as expected to the vaccine.

Risks associated with mRNA vaccines are low. In randomized studies, the frequency of serious and severe adverse events (SAEs) was similar for vaccinated participants and those who received a placebo.[13] A very recent study reports only 33 SAEs (0.005%) after 704,003 first doses of mRNA vaccine.[14] In 7 studies, including 820 dialysis patients,[6–13] no SAEs were reported. Although very low, the incidence of SAEs is obviously not zero. Nevertheless, this concern has to be balanced with the high morbidity and mortality incidence of COVID-19 in dialysis patients.[15]

A recent report indicated that 20% of hemodialysis patients were hesitant to seek out the COVID-19 vaccine.[16] The proportion increased to 29% in patients aged 18–44 years. A majority of hesitancy was due to concerns about side effects. For these patients, the main source of information on the COVID-19 vaccine was television, and not dialysis-center staff.[16] Providing better information regarding vaccine safety is a major issue for physicians. It should be also noted that vaccine hesitancy is substantially reduced if the vaccine is offered at a dialysis facility. Thus, the role of dialysis centers is crucial in patient adherence to vaccination guidance.

Respect of personhood and autonomy of choice are fundamental principles of health care. The right to decline vaccination cannot be denied, but patients must know all consequences of their choice. Patients often perceive risks differently from physicians. Hesitant individuals consider that they are at low risk of COVID-19 infection while being at high risk of suffering adverse effects from the vaccine. Communication based on empowerment and trust should be brought to the forefront of the battle against the disease.

An open reflection and discussion about the issues of anti–COVID-19 vaccination for patients on the transplant waiting list are necessary to facilitate both patients' information gathering and decision-making and physician guidance of hesitant patients. Whether vaccination should be a prerequisite for referral to a waiting list is a difficult question to answer, and related issues regarding patients' rights, physicians' knowledge, and societal issues are intertwined, creating the dilemma we currently face.

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Kidney International (2021) **100,** 939–940; https://doi.org/10.1016/j.kint.2021.07.017

Scleroderma renal crisis following mRNA vaccination against SARS-CoV-2

To the editor: Rare cases of renal disease flares after vaccination against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have been reported, including IgA nephropathy, membranous nephropathy, minimal change disease, or pauci-immune vasculitis.[1] Here, we describe an original case of scleroderma renal crisis following mRNA vaccination against SARS-CoV-2.

A 34-year-old woman was referred to our nephrology department for hypertensive emergency and acute kidney injury. Her past medical history included an uncomplicated pregnancy, asthma with annual exacerbations, Raynaud phenomenon since the age of 18 years, and an episode of pericarditis 5 years earlier. The patient had no history of previous coronavirus disease 2019 (COVID-19).

One week before admission, she had received a first dose of the BNT162b2 (Pfizer) vaccine. Twenty-four hours after injection, she developed persistent headaches and nausea, and then suddenly suffered from acute vision loss. A consultation in the ophthalmic emergency ward found evidence of stage I hypertensive retinopathy and high blood pressure (220/110 mm Hg). A chest computed tomography scan and brain magnetic resonance imaging scan excluded aortic dissection, pulmonary lesions, posterior reversible encephalopathy syndrome, and cerebral venous thrombosis.

On admission, her blood pressure was 210/120 mm Hg, but her other vital signs were normal. Physical examination revealed thickened skin on the face and the back of both hands and wrists—sclerodactyly and oral telangiectasia.

Laboratory studies identified acute kidney injury (serum creatinine [SCr] level of 183 μM; it was 80 μM 1 year earlier), and thrombocytopenia (platelets 92.000/microm^3) and anemia (Hb 11.9 g/dl). Lacticodehydrogenase level was increased (368 UI/l, N < 250), haptoglobin was under the detection level (<0.1 g/l), schistocytes were not detected, and a direct antiglobulin test was negative. ADAMTS 13 activity was 97% (N 50–150). Proteinuria was 0.80 g/d, without hematuria. Anti-RNA polymerase III antibodies were positive (53 UI/l, N < 10), whereas anti-dsDNA, anti-SCl 70, anti-centromere, and anti-fibrillarin antibodies were negative. Complement was normal. Lupus anticoagulant, anti-cardiolipin antibodies, and anti-β2GP1 antibodies were absent. A search for shiga-toxin producing *Escherichia coli* in stools was negative. SARS-CoV-2 anti-spike IgG antibody level was 475 AU/ml (positive if > 50), with no anti-nucleocapsid antibody.

A renal biopsy was performed (Figure 1) and contained 50 glomeruli, including 2 globally sclerotic glomeruli. Medium-size artery changes predominated, with mucoid intimal thickening leading to severe narrowing of the vascular lumen. Secondary ischemic glomerular changes were

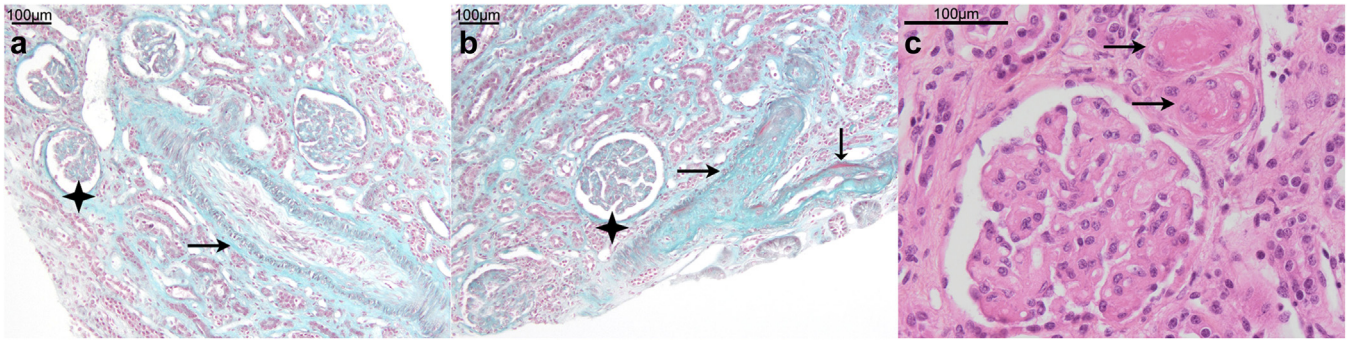

Figure 1 | Renal biopsy: (a) interlobular artery with pale mucoid intimal hyperplasia (arrow) leading to severe reduction of the vessel lumen and ischemic glomerular collapse (black star); Masson's trichrome, original magnification ×100. (**b**) Arterial occlusion with fibrin deposition (arrows) and ischemic glomeruli (black star); Masson's trichrome, original magnification ×100. (**c**) Arteriolar thrombosis (arrows); hematein eosin saffron; original magnification ×400. Bars = 100 μm. To optimize viewing of this image, please see the online version of this article at www.kidney-international.org.