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The authors reply: We agree with our colleagues¹ that the risk of death by coronavirus disease 2019 (COVID-19) integrates both (i) the risk of infection by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which is higher in renal transplant candidates,² and (ii) the risk to develop a severe form of COVID-19, which is higher in recipients.^{2,3} Understanding how these distinct risks compare in each population is critical to establish appropriate guidelines.



On the basis of the data from the first wave of the pandemic, the IMPORTANT study concluded that renal transplantation should be maintained in the areas where the virus circulation is low.⁴ What strategy should be adopted in areas with intense virus circulation was less clear. A limitation of our first analysis is that candidates and recipients were considered as 2 homogeneous populations, which they are

not. Due to comorbidities, 46% candidates are not active on the waiting list, which artificially increases the risk of death of candidates by considering patients that cannot be transplanted anyway. Furthermore, patients who received transplantation more than 1 year earlier represent the vast majority (92%) of the population, but they are also the patients with fewer hospital interactions and those who receive less immunosuppression. Yet if renal transplantations were maintained, it is the risk of recent transplant recipients that would count. Reanalyzing the data from the high viral risk area, we observed that recently transplanted patients had a higher risk for both SARS-Cov-2 infection (Figure 1a) and death due to COVID-19 (Figure 1b) compared with those transplanted for more than 1 year. Furthermore, the risk of death due to COVID was the lowest for candidates active on the waiting list. Finally, overall survival over the period was higher for candidates active on the waiting list than recently

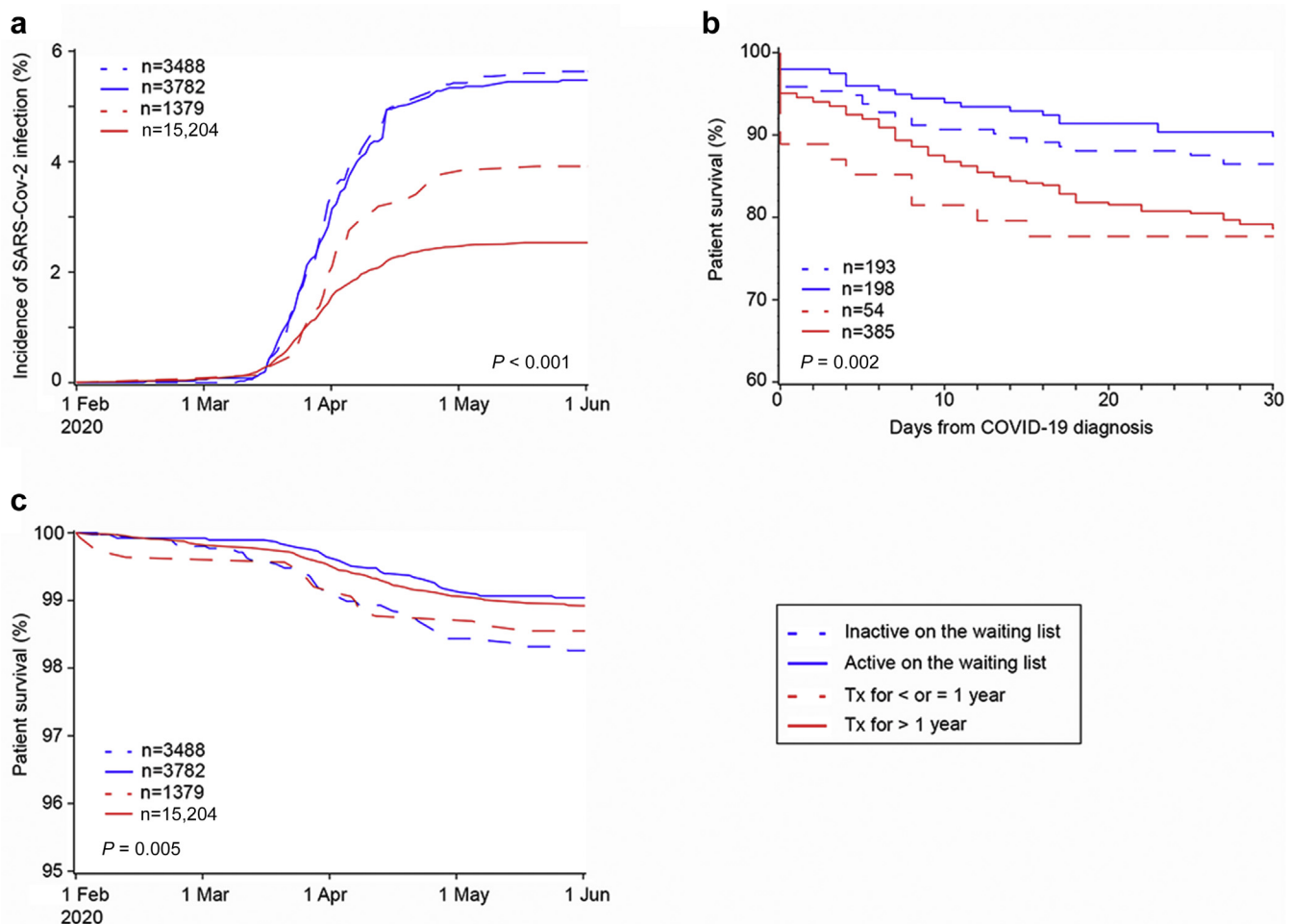


Figure 1 | Patients in the Impact of the COVID-19 Epidemic on the Mortality of Kidney Transplant Recipients and Candidates in a French Nationwide Registry study (IMPORTANT) study. The patients of the IMPORTANT study who lived in the areas with intense virus circulation during the first epidemic wave of coronavirus disease 2019 (COVID-19) were distributed into 4 groups: renal transplant candidates active (solid blue line) and inactive (dashed blue line) on the national waiting list and renal transplant recipients transplanted for 1 year or less (dashed red line) or more than 1 year (solid red line). (a) Incidence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the 4 groups. (b) Survival of patients infected with SARS-Cov-2 in the 4 groups. (c) Global survival of the patients for the 4 groups over the study period. Log-rank tests.

transplanted patients (Figure 1c). We therefore conclude that renal transplantation should be suspended in areas with high virus circulation.

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Pretransplant coronary artery disease screening is still valid



To the editor: Nimmo *et al.*¹ reported the results of a study suggesting that screening for asymptomatic coronary artery disease (CAD) does not predict cardiac events in kidney transplant recipients. We disagree with their conclusions.

First, time interval between CAD screening and transplantation is crucial information that is sorely lacking in this study. Progression of CAD is largely described as accelerated in end-stage renal disease patients. In the Observatorio Nacional de Atherosclerosis en NEFrologia (NEFRONA) study, which included patients with chronic kidney disease, atherosclerosis progressed within 2 years in 69% of patients with preexisting plaque and in 40% in those without plaque.² Consequently, the half-life of a negative screening is short in these patients. The average time on the waiting list for a kidney transplant is 2.5 to 3 years.³ Thus, the majority of patients have progression of CAD during the waiting period.

Second, if few patients have positive screening, the positive predictive value will be low. However, the prevalence of CAD is not reported.

Third, positive screenings may exclude patients from the transplant program. Analyses should take this point into account and consider it as a direct benefit of screening for patients and society.

Finally, no data are available on treatment of cardiovascular risk factors before and after transplantation. For instance, the Assessment of Lescol in Renal Transplantation (ALERT) extension study reported that fluvastatin reduces major adverse cardiac events in incident kidney transplant recipients.⁴ Interpretation of results without knowledge of prevention is difficult.

For all these reasons, we think that it seems reasonable to persist in CAD screening before kidney transplantation.

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The authors reply: Thank you to Ducloux *et al.*¹ for their comments on our study² and the opportunity to respond. We address their concerns in order here.



First, they suggest screening performed too far in advance of surgery may be ineffective. This was a real-world study and screening patterns were determined by transplant centers. As such, it is likely that some individuals underwent repeated testing while on the waitlist. Questions regarding the optimal timing of screening are separate from those we aimed to address, although similar propensity-score-matched work has not shown benefit from surveillance stress tests.³

Second, the prevalence of abnormalities on screening investigations are high: studies in similar populations describe stress test abnormalities in 25% to 30% of transplant recipients.⁴ We do not believe our population would be substantially different from that reported elsewhere.

Third, we acknowledge the challenge of nonlisting of individuals² and agree that equitable use of the organ supply is