

# Is it safe to perform abdominal transplantation from SARS-CoV-2 polymerase chain reaction positive donors?

To the Editor:

We read "Kidney transplantation from a SARS-CoV-2-positive donor for the recipients with immunity after COVID-19" by Puodziukaite et al. with great interest.<sup>1</sup> This was a case report about the transplantation of two kidneys from a donor with active coronavirus disease 2019 (COVID-19).

COVID-19 pandemic has created new challenges for health care systems around the world and also has directly affected solid organ transplantation (SOT) including donation.<sup>2</sup> The ongoing pandemic has not decreased the need for SOT, and a global concern has been safe transplantation during this time.<sup>3</sup> During a pandemic, the potential organ donation pool should be affected, which raises the question of how to approach a possible donor with history of COVID-19. One report mentioned the possibility of donor-derived severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in lung transplantation that may affect all types of transplant recipients.<sup>4</sup> On the other hand, successful heart and liver transplant from SARS-CoV-2 polymerase chain reaction (PCR)-positive donor has been reported.<sup>5</sup> This suggests there should potentially be a concern in lung transplantation, but still this is unclear in other transplants whether we can use these donors safely. We report successful kidney transplantation from nasopharyngeal (NP) swab PCR-positive donor to two PCR-negative recipients, and additional two recipients (one kidney and one liver) whose donor had active history of COVID-19, but SARS-CoV-2 PCR achieved negativity at the time of procurement. We did not modify induction or maintenance immunosuppressive medication or add any SARS-CoV-2-specific treatment despite of the donor PCR positivity. During surgery, SARS-CoV-2 infection precaution methods including wearing N95 masks and using negative pressure surgery rooms were implemented.

The donor was a 19-year-old male with no known history of SARS-CoV-2 infection. The cause of death was determined to be due to a gun shot. There was no documented evidence of respiratory symptoms. Chest x-ray at the time of procurement was normal, and no chest CT was available. This donor had positive PCR result of NP swab for SARS-CoV-2 (Labcorp) with cycle threshold (Ct) value of 40.2. As the donor did not have any active symptoms consistent with COVID-19 and Ct value was high, we proceeded with transplantation. Both kidneys were transplanted into two different recipients. Recipients' information is summarized in Table 1. Patients had close follow-up to 12 weeks after transplant with no evidence of symptomatic COVID-19. Nine days after transplant, we did follow NP swab PCR and both of them were

negative. Allograft function and overall clinical status has been optimal during follow-up.

Similar to Puodziukaite et al.,<sup>1</sup> we safely performed abdominal transplantations from a donor with positive PCR of NP swab for SARS-CoV-2. During a pandemic, to expand the donor pool, we may need to reassess utilization of organs from PCR-positive donors for kidney transplantation, especially when there are no signs of active infection with high Ct value. To validate the safety of PCR-positive donor in abdominal transplantation, a larger sample sized study should be needed.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## AUTHOR CONTRIBUTIONS

Paola Frattaroli, Shweta Anjan, and Yoichiro Natori designed the study. All authors were responsible for data interpretation and writing.

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**TABLE 1** Recipient characteristics

Case number	Age/Gender	Type of transplant	Primary disease for end-stage kidney disease	Positive donor SARS-CoV-2 NTP swab immediately prior to transplant	SARS-CoV-2 NTP swab follow-up after transplant	Follow-up period (days)	Prior recipient vaccination	Induction immunosuppression	Graft outcome at last follow-up	Upper respiratory like symptoms at follow-up
1	33/Female	Kidney	Lupus nephritis	Yes	Negative/9 days after transplant	84	No	Thymoglobulin/ basiliximab/ methylprednisolone	Cr 0.8 mg/dl BUN 17 mg/dl	None
2	21/Female	Kidney	Bilateral renal hypoplasia	Yes	Negative/9 days after transplant	84	1 Week prior to transplant (first dose-Pfizer)	Thymoglobulin/ basiliximab/ methylprednisolone	Cr 0.69 mg/dl BUN 6 mg/dl	None
3	50/Female	Kidney	Atrophic kidneys	No	Negative/7 days after transplant	58	No	Thymoglobulin/ basiliximab/ methylprednisolone	Cr 0.8 mg/dl BUN 13 mg/dl	None
4	22/Male	Liver	Autoimmune hepatitis	No	Negative/13 day: after transplant	35	Yes (two doses-Pfizer)	Methylprednisolone/ antithymocyte/ rituximab	Normal liver function test	None

Abbreviations: BUN, blood urea nitrogen; Cr, creatinine; NP, nasopharyngeal; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

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