

## LETTER TO THE EDITOR

# Kidney transplantation with presymptomatic COVID-19–positive surgeon

## To the Editor:

In Italy, the coronavirus disease 2019 (COVID-19) outbreak caused by SARS-CoV-2 is testing the national health system, and intensive care units are at the limits of their capacity.<sup>1</sup> Severe travel limitation and containment at home were applied, such as in the Chinese experience, and patients with COVID-19 were isolated to control the exponential trend of the infection spread.<sup>2</sup>

An open problem is how to control the asymptomatic doctors and nurses working in the hospitals. The real-time reverse transcriptase–polymerase chain reaction assay of nasal and pharyngeal swab specimens (NPS) was applied to test only symptomatic patients.<sup>3</sup>

The first example of testing asymptomatic patients comes from the Italian Transplant Authority, which released guidelines for the donor management including the NPS before donation in highly epidemic areas of the country, with the consequent exclusion of positive donors.<sup>4</sup> Concerning the recipient of the organ, a similar prevention strategy is under definition.<sup>5</sup>

Despite the prevention strategies, the risk to catch the virus during the hospital time is higher than at home, and this aspect should be included in the informed patient consent and considered according to the risk and benefit of any operation.

We recently performed a kidney transplant with screening of the donor and recipient, who were NPS negative for COVID-19. On the other hand, the surgeon involved in the operation (MR) was a presymptomatic COVID-19–positive patient. The day after the operation, he had none of the common symptoms like fever and cough but had muscular pain and nausea; his NPS were positive. Therefore, he started and completed home isolation for 2 weeks, becoming NPS negative twice.

The day before the kidney transplant, the same surgeon performed 2 operations for small bowel perforation and intestinal tumor resection on 2 different recent liver transplant recipients.

The surgeon applied the infection control measures—hand hygiene, surgical facial mask, and gloves—during the visit of the candidate before surgery and all the standard behavior during the surgical procedure, which took 3 hours for the kidney transplant and 5 hours for the other 2 operations on liver transplant recipients.

The same infection control measures were applied with his staff colleagues: wearing surgical facial mask in case of a distance closer than 1 m and wearing gloves for any contact.

The kidney recipient did not become positive for COVID-19 as tested by NPS 4 and 10 days after the operation; this was also true for the other 2 patients on which he operated.

The staff colleagues (10 doctors and 15 nurses) of the surgeon involved, who had contact with him during the 2 days before his NPS-positive test, were tested by NPS and they were all negative.

This is the first reported case of surgical procedures performed by a presymptomatic COVID-19–positive surgeon and no definitive conclusions may be raised, but the issue of virus transmission by asymptomatic or presymptomatic hospital member staff becomes evident, as reported in other series.<sup>6,7</sup> No definitive rules come from this experience about the screening time and procedures of the medical staff, but some insights can be summarized:

1. A strategy of screening with NPS should be considered and applied for asymptomatic doctors and nurses in highly epidemic areas of COVID-19; NPS should be performed even in cases of few symptoms or nonspecific symptoms.
2. A correct infection control measure may prevent transmission of the COVID-19 infection even during complex surgery performed by asymptomatic/presymptomatic COVID-19–positive surgeons. This rule was valid for any pathogen that may be transmitted, but it should be stressed in all the hospital areas and even among the medical staff.
3. In the highly epidemic areas, every doctor and nurse should consider themselves asymptomatic COVID-19 positive; therefore, universal masking and any contact with the use of gloves should be considered.

## KEYWORDS






clinical research/practice, infection and infectious agents, infectious disease, kidney disease, kidney transplantation/nephrology

## ACKNOWLEDGMENTS

Primary funding for this study was provided by the Emilia-Romagna Region and the University of Bologna.

## DISCLOSURE

The authors of this manuscript have no conflicts of interest to disclose as described by the *American Journal of Transplantation*.

Matteo Ravaioli   
Giorgia Comai   
Giuliana Germinario   
Lorenzo Maroni   
Gaetano La Manna 

Department of Medical and Surgical Sciences,  
University of Bologna, Bologna, Italy

#### Correspondence

Matteo Ravaioli  
Email: [matteo.ravaioli6@unibo.it](mailto:matteo.ravaioli6@unibo.it)

#### ORCID

Matteo Ravaioli  <https://orcid.org/0000-0001-5862-6151>  
Giorgia Comai  <https://orcid.org/0000-0003-4160-8840>  
Giuliana Germinario  <https://orcid.org/0000-0002-8019-1956>  
Lorenzo Maroni  <https://orcid.org/0000-0003-4195-3580>  
Gaetano La Manna  <https://orcid.org/0000-0001-5473-8551>

#### REFERENCES

1. Remuzzi A, Remuzzi G. COVID-19 and Italy: what next? *Lancet*. 2020;395(10231):1225-1228. pii:S0140-6736(20)30627-30629.
2. Guan WJ, Ni ZY, Hu Y, et al. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*. 2020;382(18):1708-1720.
3. World Health Organization. Coronavirus disease (COVID-2019) situation reports. 2020. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports.2>. Accessed March 10, 2020.
4. Centro Nazionale Trapianti (CNT). 28 Feb 2020-Nota CNT. Prot. 482/CNT 2020. [http://www.trapianti.salute.gov.it/imgs/C\\_17\\_cntAvvisi\\_229\\_0\\_file.pdf](http://www.trapianti.salute.gov.it/imgs/C_17_cntAvvisi_229_0_file.pdf). Accessed March 10, 2020.
5. Gori A, Dondossola D, Antonelli B, et al. Coronavirus disease 2019 and transplantation: a view from the inside. *Am J Transplant*. 2020. <https://doi.org/10.1111/ajt.15853>.
6. Bai Y, Yao L, Wei T, et al. Presumed asymptomatic carrier transmission of COVID-19 [published online ahead of print, 2020 Feb 21]. *JAMA*. 2020;323(14):1406.
7. Rothe C, Schunk M, Sothmann P, et al. Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. *N Engl J Med*. 2020;382(10):970-971.