

DR E. RODRIGO (Orcid ID : 0000-0002-2845-5272)

DR EDUARDO MIÑAMBRES (Orcid ID : 0000-0002-0466-044X)

Article type : L - Letter to the Editor

COVID-19 related collapse of transplantation systems: a heterogeneous recovery?

Emilio Rodrigo¹, Eduardo Miñambres², José Luis Gutiérrez-Baños³, Rosalía Valero¹, Lara Belmar¹, Juan Carlos Ruiz¹

¹Service of Nephrology, University Hospital Marqués de Valdecilla-IDIVAL, School of Medicine, University of Cantabria, Santander, Spain.

²Transplant Coordination Unit & Service of Intensive Care, University Hospital Marqués de Valdecilla-IDIVAL, School of Medicine, University of Cantabria, Santander, Spain.

³Service of Urology, University Hospital Marqués de Valdecilla-IDIVAL, School of Medicine, University of Cantabria, Santander, Spain.

Corresponding Author: Emilio Rodrigo, nefrce@humv.es

To the Editor:

The coronavirus disease-2019 (COVID-19) pandemic has pushed healthcare systems to the limit worldwide. Hospital resources have been compromised, especially in intensive care units (ICUs). Regarding that, some nephrologists have alerted about the potential shortages of our ability to deliver kidney replacement therapy to all patients who need it (1). Simultaneously, two reports have highlighted the collapse of organ transplantation figures in several countries such as France (91%), the US (51%) and

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/AJT.16125](https://doi.org/10.1111/AJT.16125)

This article is protected by copyright. All rights reserved

Spain (87%), mainly due to a reduction in the number of transplants from deceased donors (2, 3). Other countries, such as Italy, have also detected a pronounced reduction, although smaller (25%) in the number of overall deceased donors procured at the national level (4). Throughout the world, most healthcare systems have adapted to avoid the spreading of the infection and to deliver the usual healthcare for most patients. Specific recommendations have been developed for surgical and transplant teams (5, 6). Along with the importance of following strict detection and isolation measures, splitting the hospitals into COVID-19 positive and negative areas with specific dedicated teams of healthcare professionals have allowed to preserve some activities such as organ transplantation.

Cantabria is a Spanish region with a current intermediate COVID-19 incidence of 4.7 cases/1000 inhabitants. Due to the risk of prompt saturation of the healthcare system and, especially, of the ICU of our Hospital, at the beginning of the pandemic, the kidney transplant team decided to perform only deceased donor kidney transplants for hypersensitized patients. Two weeks after splitting the hospital and applying strict screening and isolation measures to all admitted patients, the hospital situation improved and the transplant team determined to restart the transplant activity for deceased donor kidney transplantation. After that, the number of kidney transplants increased from 0.7/week to 2.4/week, whereas national transplant activity remained extremely low (figure). This account for a total of 15 kidney transplants in an 8-week period whereas the mean number of transplants in the same period for the previous 5 years was 6.4 procedures. Most of these transplants were performed using a kidney from a donor outside Cantabria through the "Organización Nacional de Trasplantes" (ONT).

Although the reduction in transplantation rates has been globally distributed, Loupy et al suggested that some transplant procurement organizations can recover faster than others (3). This faster recovery can be due not only to the reduction in the COVID-19 rate but also to the best hospital practices. In this sense, we would like to highlight that the changes made in the hospital organization were effective in reducing the burden on the healthcare system and, especially, on the ICU. Related to that, the whole transplant team rapidly adapted from a low activity situation to a big increase in the number of transplants above the usual. A considerable number of optimal donor organs were offered through the ONT and our center was able to accept most of them. Otherwise, these organs would have been discarded. Last, having a national organization such as ONT allowed quick identification of those centers like ours, among others in Spain, that could resume the transplant activity at a faster pace in order to use potential deceased donor organs that could have been lost.

Disclosure

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

References

1. Goldfarb DS, Benstein JA, Zhdanova O, et al. Impending Shortages of Kidney Replacement Therapy for COVID-19 Patients. *Clin J Am Soc Nephrol* 2020. doi:10.2215/CJN.05180420. [Epub ahead of print]
2. Domínguez-Gil B, Coll E, Fernández-Ruiz M, et al. COVID-19 In Spain: Transplantation In The Midst Of The Pandemic. *Am J Transplant* 2020. doi: 10.1111/ajt.15983. [Epub ahead of print]
3. Loupy A, Aubert O, Reese PP, et al. Organ procurement and transplantation during the COVID-19 pandemic. *Lancet* 2020, doi: 10.1016/S0140-6736(20)31040-0. [Epub ahead of print]
4. Angelico R, Trapani S, Manzia TM, et al. The COVID-19 outbreak in Italy: Initial implications for organ transplantation programs. *Am J Transplant* 2020. doi:10.1111/ajt.15904. [Epub ahead of print]
5. Søreide K, Hallet J, Matthews JB, et al. Immediate and long-term impact of the COVID-19 pandemic on delivery of surgical services. *Br J Surg*. 2020 Apr 30. doi: 10.1002/bjs.11670. [Epub ahead of print]
6. Summary of Spanish recommendations regarding organ donation and transplantation in relation to the COVID-19 outbreak. Available at: <http://www.ont.es/infesp/RecomendacionesParaProfesionales/Spanish%20Recommendations%20on%20Organ%20Donation%20and%20Transplantation%20COVID-19%20%20ONT.pdf>

