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Liver Transplantation Activity in the Eurotransplant Area Is Recovering Slowly During the COVID-19 Crisis

Gabriel Putzer, MD,¹ Judith Martini, MD,¹ Lukas Gasteiger, MD,¹ Simon Mathis, MD,¹ Robert Breitkopf, MD,¹ Tobias Hell, PhD,² Arjan van Enckevort, MD,³ Rupert Oberhuber, MD,⁴ Dietmar Öfner, MD,⁴ and Stefan Schneeberger, MD⁴

The Eurotransplant (ET) network serves a total population of approximately 137 million people, allocating more than 7000 organs every year, including 1500 livers. Because of the expected wave of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-positive patients in mid-March 2020, elective surgeries were drastically reduced in ET countries, a fact that presumably also affected transplant activities. We therefore compared the number of liver transplantations (LTs) conducted in the ET area from mid-March until mid-June 2020 with the number of LTs performed during the corresponding period from 2015 to 2019. For a more detailed

analysis of LT activities, we divided the observation period into 3 time periods.

From mid-March to mid-April 2020, 99 LTs were performed, compared with 139 LTs (95% CI, 129–150) during the same period in the years 2015–2019. This represents a 29% (Exact Poisson's test, $P < 0.001$) decrease and is congruent to early reports from Italy during the first month of the coronavirus disease 2019 (COVID-19) outbreak.¹ Limited knowledge about the characteristics of SARS-CoV-2 and its impact on morbidity and mortality of transplanted patients may have been a reason for this decline.² In addition, concerns about the validity of the SARS-CoV-2 tests and about donor-to-recipient transmission and staff exposure, as observed during the SARS-CoV outbreak,³ may have played a role. Recommendations on how to ensure the safe continuation of a transplant program were not available during the early phase of the COVID-19 crisis, and uncertainties about the severity of the outbreak may have led to a rather reserved approach toward perpetuation of transplantations during this time.⁴

Our data revealed that compared with the other ET countries, LT programs in Germany continued almost at the same pace during the initial phase of the COVID-19 crisis. One possible explanation could be sufficient resources, especially with regard to intensive care beds (29.2 beds per 100 000 inhabitants) compared with Luxembourg (24.8/100 000), Austria (21.8/100 000), Belgium (15.9/100 000), Croatia (14.7/100 000), Hungary (13.8/100 000), and Slovenia and the Netherlands (both 6.4/100 000).⁵ This high number of intensive care beds may have facilitated the preservation of COVID-19-free transplant units in Germany. Another possible explanation why countries such as Austria, Croatia, and Slovenia more drastically reduced their transplantation activities could have been earlier and stricter precautions in organ procurement and transplantation due to the proximity of Italy. By mid-March, Italy had already reported more than 23 000 SARS-CoV-2 positive patients and >1800 COVID-19 associated deaths.⁶

In the following 2 months, that is, from mid-April to mid-May and from mid-May to mid-June 2020, 123 and 132 liver transplants were performed, respectively. Even though the numbers of LTs increased compared with the first months of observation, they were significantly lower than during the corresponding periods from 2015 to 2019 (Figure 1), suggesting that transplant activity is recovering

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¹ Department of Anaesthesiology and Critical Care Medicine, Medical University Innsbruck, Innsbruck, Austria.

² Department of Mathematics, Faculty of Mathematics, Computer Science and Physics, University of Innsbruck, Innsbruck, Austria.

³ Eurotransplant International Foundation, Leiden, The Netherlands.

⁴ Department of Visceral, Transplant and Thoracic Surgery, Medical University of Innsbruck, Innsbruck, Austria.

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Correspondence: Gabriel Putzer, MD, Department of Anaesthesiology and Critical Care Medicine, Medical University Innsbruck, Anichstrasse 35, 6020 Innsbruck, Austria. (gabriel.putzer@i-med.ac.at).

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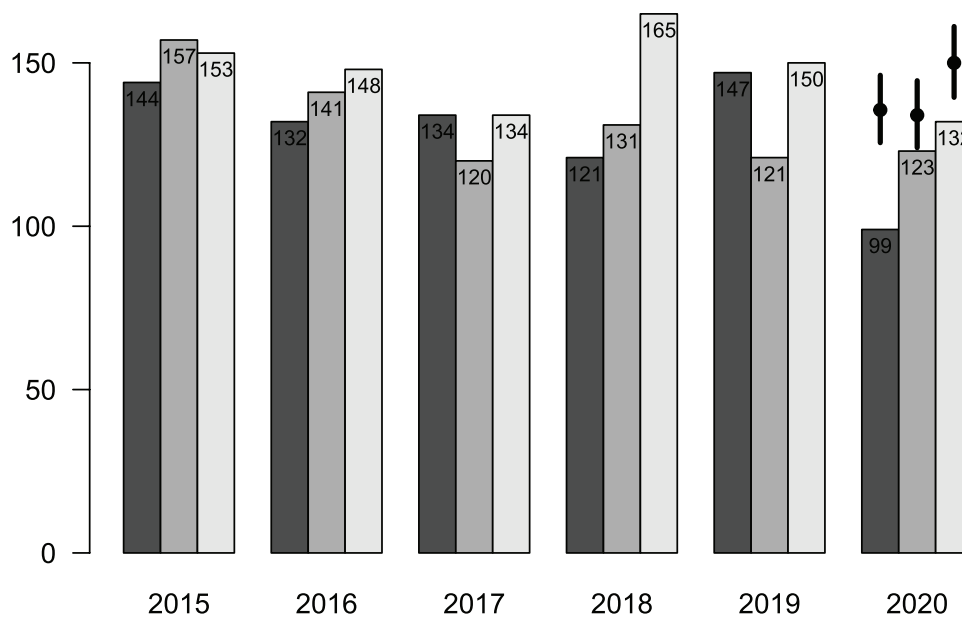


FIGURE 1. LTs performed in the Eurotransplant area from mid-March to mid-June in the years 2015–2020. The dark gray, gray, and light gray bars represent the number of LTs in the first, second, and third month of observation, respectively. Above the 2020 bars, the mean values and the 95% CIs for the years 2015–2019 are shown. CI, confidence intervals; LT, liver transplantations.

quite slowly. In light of the current waitlist mortality rate of about 16% in the ET area, these data suggest an accumulated death on the waiting list.

The other concern is that this pandemic will not only cause a short-term decline in LTs but will lead to a longer-lasting decrease in donor recruitment. The transplant community must, therefore, undertake every effort to reestablish the volume of LTs to limit the mortality of patients with life-threatening liver failure.

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