

LETTER TO THE EDITORS

**Reply to Rodriguez-Peralvarez et al**

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To the Editors:

We read with great interest the letter by Rodriguez-Peralvarez et al. where the authors discuss the incidence of COVID-19 in liver transplant (LT) recipients in Europe and comment on the results of the recently published early survey of European Liver and Intestine Transplantation Association (ELITA) and European Liver Transplant Registry (ELTR) [1,2].

In their letter, Rodriguez-Peralvarez et al. highlight that the cumulative incidence of COVID-19 in Europe may have been overestimated and could vary among the countries depending on their epidemiological situation [1].

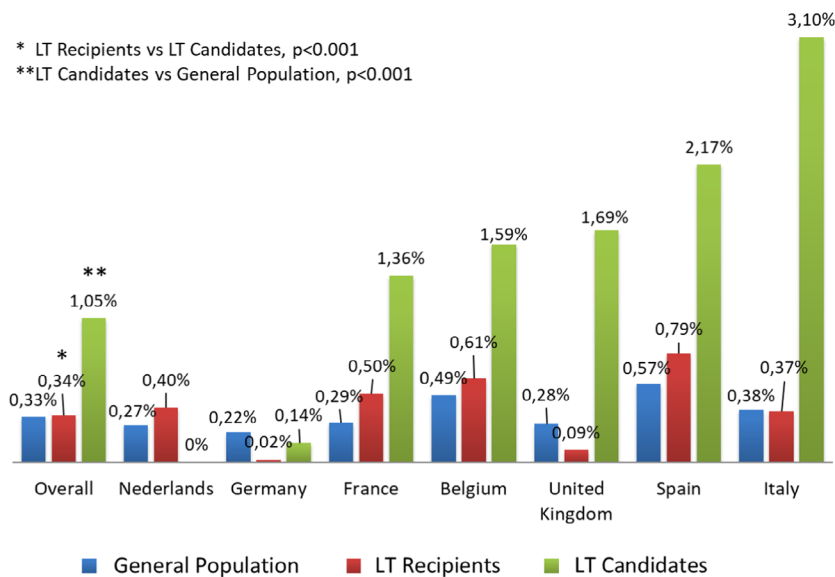
We recognize that cumulative incidence of COVID-19 among LT recipients was highly variable in different European countries at the time of our survey. This was clearly shown in our study (Fig. 1) where the heterogeneity of COVID-19 prevalence across Europe was presented. In the same figure, we showed that the cumulative incidence of COVID-19 in Spain was 0.79%, which corresponds to that reported by the authors in their excellent nationwide study (0.84%) [3]. However, in contrast to the national studies, the strength of our

ELITA-ELTR study is a better description of the incidence of COVID-19 in LT recipients at the European level at the beginning of the pandemic. Another important finding of our study was that a higher incidence of COVID-19 in LT recipients compared to general population was not observed in all countries, in contrast to the incidence of COVID-19 in LT candidates. However, we took care to mention in our paper that the crude incidence proportions were an estimate obtained in difficult conditions in the middle of the epidemic and without any adjustment for gender and age.

We recognize that the definition of symptomatic COVID-19 in LT candidates/recipients used in our study was broad (relevant clinical symptoms and positive swab PCR and/or highly suggestive lung injury on thoracic CT scan), and as mentioned by the authors, this could be the reason for overestimation of the incidence of COVID-19 in some centres compared to the authors' study [1]. However, in our opinion, the broader definition was more appropriate for a preliminary study attempting to estimate the frequency of COVID-19 in LT candidates and recipients across Europe, knowing that the sensitivity of the nasopharyngeal swab PCR is 70–80% [4]. At the same time, studies conducted in centres with a high incidence of COVID-19 have reported that negative RT-PCR test, but with positive CT features, should be highly suggestive for COVID-19 [4–6].

In summary, the ELITA-ELTR snapshot survey on COVID-19 in LT recipients and candidates, despite some limitations, provided the first reliable information on the incidence of COVID-19 in this population across Europe, taking actually into account national variations and reflecting at best in our opinion the reality of the landscape. The consistency between rates of COVID-19 in Spain as reported in our study, and in the Spanish one, strongly support this assumption. National scale projects such as the Spanish study in LT recipients will complement this information to provide detailed information on the epidemiological situation of COVID-19

\* LT Recipients vs LT Candidates,  $p < 0.001$   
 \*\*LT Candidates vs General Population,  $p < 0.001$



**Figure 1** Incidence of SARS-CoV-2 in liver transplant patients compared to the general population.

in different European countries. Combining data from all European countries in one platform/study would provide a unique opportunity to monitor the incidence of COVID-19 in liver transplantation setting, adding a dynamic dimension to our first report, and most importantly to collect additional information on treatment strategies to optimize the management of COVID-19 in the very special population of LT recipients.

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### Conflict of interest

The authors have declared no conflict of interest.

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