



LETTER TO THE EDITORS

Intestinal transplantation during COVID-19 pandemic

Hamed Nikoupour, Peyman Arasteh  & Saman Nikeghbalian 

Shiraz Transplant Center, Abu Ali Sina Hospital, Shiraz University of Medical Sciences, Shiraz, Iran
E-mail: peyman.arasteh@yahoo.com;
shiraz.livertransplantation@gmail.com

Dear Editors,

With the widespread of the COVID-19 in the world, all activities related to health care have been affected and this includes transplantation surgeries [1]. Considering the high transmission rate of the virus and limitations in resources such as intensive care unit (ICU) beds and blood products, in many countries living-donor transplantations and pancreas transplantations have been delayed to after the pandemic has subsided. More often, only deceased-donor transplantation for patients with fulminant liver failure and those with high model for end-stage liver disease (MELD) scores is done.

A subject which has been overshadowed by the pandemic and is up for much debate is intestinal transplantations. In countries with home parenteral nutrition (HPN), the continuation of parenteral nutrition (PN) is done in patients' homes and patients only refer to the hospital when an appropriate organ is found for transplantation. However, in many Latin American countries and almost all the countries in the Middle East, facilities for HPN do not exist [2,3]. As a result, if autonomy of the gastrointestinal system is not restored using autologous gastrointestinal reconstruction surgery (AGIR), these individuals will require hospital admission to receive PN. This is especially important among patients with ultra-short bowels which is the most common indication for intestinal transplantation among adults and is mainly caused by mesenteric ischemia, and in patients with chronic intestinal pseudo-obstruction (CIPO) in whom despite having a trifecta (pyloroplasty + total colectomy + chimney ileostomy) operation, the disease has progressed and the patient has become PN dependent. Hospital admission for PN will require patients to be hospitalized for long periods of times, and aside to the complications which may occur

due to PN itself, these individuals will be highly susceptible to COVID-19. Thus, in these regions, intestinal transplantation should be considered an emergency surgery and appropriate donors should be selected and screened for COVID-19. On the other hand, in situations in which patients do not require hospitalizations to receive PN, intestinal transplantations can and should be delayed. These include patients with extensive portomesenteric thrombosis who require multivisceral transplantations and/or tumors, considering the existing shortages in organs and difficult donor selection. From another aspect, during the COVID-19 pandemic there exists a wide shortage in deceased donors due to factors such as decreased ICU capacity, wide concerns regarding COVID-19 infection and availability of testing. As a result liver of these donors should be considered for patients with fulminant hepatic failure who have a more severe condition as these patients may die in the waiting list. In countries with living-donor transplantations and/or regions where they do not experience shortage in organs for donations in which facilities for HPN are not readily available, patients should undergo intestinal transplantations in order to decrease hospitalization time and chances of contracting COVID-19. In cases where transplantations are considered, both donors and recipients should undergo PCR testing for COVID-19 just before transplantation is done, and specific and separate operation rooms and intensive care units should be considered for these specific patients. As these individuals may be susceptible to COVID-19 even after transplantation is performed, family visitation of patients with intestinal transplantations should also be limited as much as possible and even completely inhibited if possible.

From another perspective, the induction dose of immunosuppressive medication and the serum-level maintenance dose of some immunosuppressive medication (such as tacrolimus) among patients receiving intestinal transplantations are higher compared with other organ transplantations [4]; thus, more restrictions with regard to contact with other individuals and more

strict safety protocols for COVID-19 should be applied for these patients during hospital care and after discharge from the hospital.

As for countries with HPN, considering that patients with organ transplantations seem to have higher rates of mortality compared with the normal population after contracting the novel coronavirus [5,6], although data on COVID-19 and intestinal transplantation are still missing, these countries would benefit from continuation of HPN for patients with intestinal failure.

In conclusion, the COVID-19 pandemic has created special circumstances for individuals with intestinal failure in countries without facilities for HPN and this should be an alert to healthcare officials in these countries to pursue and establish HPN.

Conflicts of interest

There is no conflict of interest to be declared regarding the manuscript

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