



Guidelines for transplant patients during the COVID-19 pandemic

Nuru Bayramov, MD, PhD, DSc¹
Elvin Isazade, MD,¹
Ruslan Mammedov, MD, PhD¹
Anar Namazov, MD, PhD¹

¹ The 1st Department of Surgical Diseases of Azerbaijan Medical University.

Correspondence:

Elvin Isazade, MD

The 1st Department of Surgical Diseases of Azerbaijan Medical University.

Phone: +994552883900

Email: elvin.isazade@hotmail.com

Objective: The causative agent of COVID-19 is highly contagious because it is spread both through direct respiratory droplets and through objects and direct contact, and one patient can infect about 3 people. Patients who had undergone transplantation are susceptible to many infections, including COVID-19. Therefore, this group of patients is considered a risk group and requires a high level of preventive measures. There is no extensive experience and science-based action plan in this field, and most of the recommendations are based on expert opinions and small-size experiences. The following recommendations can be made taking into account surveys, expert opinions and small-size experiences conducted by leading international transplant communities (TTS, ILTS, ESOT, ASOT, EASL, etc.).

Keywords: transplantaion, COVID-19.

Strictly follow the general measures

Transplant patients must strictly follow the general measures applied in the region (personal hygiene, social isolation). All personal hygiene items should be kept separate, houses should be ventilated periodically, and a distance should be kept from family members, especially those who go out.

Establish remote communication (telemedicine)

During this period, it is recommended that physician-patient communication be performed through video communication technologies in order to reduce the number of patients coming to hospitals and spread of infection.

Decentralization

It is recommended that patients living far from transplant centers to have tests and necessary examinations at their place of residence, and that clinical examinations be performed by local physicians if necessary. It is also important to establish coordination between transplantologists and local doctors.

Change immunosuppression only when indicated

It is not recommended to change immunosuppressive regimens due to the risk of COVID-19. It is recommended to continue standart immunosuppression as before. Immunosuppressive regimens can be changed in consultation with a transplantologist only in special circumstances:

- in case of serious side effects related to drugs - leukopenia, lymphopenia,
- If there are superinfections
- When certain drugs are used in COVID-19 patients.

Interventions and invasive examinations should be performed only in emergency cases

It is recommended to delay routine examinations, especially invasive examinations and interventions (endoscopy, ERCP), as much as possible. It is recommended to perform them only in emergency cases (bleeding, cholangitis, stricture, etc.)

Living donor transplant operations

It is recommended to postpone elective transplantation. In emergency transplantation, it is recommended to examine both the recipient and the donor for COVID-19, to obtain an informed consent regarding high risks and to perform operation in hospitals isolated from COVID-19 patients.

Indications for hospitalization

Transplant patients are recommended to be hospitalized only with emergency indications.

Guidelines for transplant patients with confirmed COVID-19 infection

Transplant patients with suspected COVID-19 infection should be tested immediately. If COVID-19 is confirmed, pa-

tients should be hospitalized and receive treatment. Paracetamol is recommended as a non-steroid in transplant patients, especially in liver transplant patients, and the dose should not exceed 2-3 g/day. Interactions with immunosuppressive drugs should be considered during COVID-19 treatment. (Table 1). Because most of these drugs interact with calcineurin and m-TOR inhibitors, blood levels of immunosuppressants should be monitored periodically.

References

1. Boettler T, Newsome PN, Mondelli MU, Maticic M, Cordero E, Cornberg M, Berg T, Care of patients with liver disease during the COVID-19 pandemic: EASL-ESCMID position paper, JHEP Reports (2020), doi: <https://doi.org/10.1016/j.jhepr.2020.100113>.
2. Guidance on Coronavirus Disease 2019 (COVID-19) for Transplant Clinicians. Updated 16 March 2020. TTS, ILTS

Table 1. Interaction of drugs used in COVID-19 with immunosuppressive drugs.

| Drug name | Interaction |
|---|--|
| Remdesivir (antiviral) | Interaction with immunosuppressive drugs is unknown. Immunosuppressive drug levels need to be monitored. |
| Chloroquine/hydroxychloroquine (anti-malaria) | Has drug interaction with tacrolimus, cyclosporine and m-TOR inhibitors. Immunosuppressive drug levels need to be monitored. |
| Lopinavir / ritonavir (antiviral) | Has drug interaction with immunosuppressants. Should not be used in combination with m-TOR inhibitors. Tacrolimus, cyclosporine levels need to be monitored. |
| Tocilizumab (anti-IL-6) | Interaction with immunosuppressants is unknown. Immunosuppressive drug levels need to be monitored. |
| Umifenovir (Arbidol) (antiviral) | May interact with immunosuppressive drugs. Immunosuppressant levels need to be monitored. |
| Favipiravir / favilavir (antiviral) | May interact with immunosuppressive drugs. Immunosuppressive drug levels need to be monitored. |
| Sofosbuvir (antiviral) | It can be used with immunosuppressive drugs, there is no need to change the dose. |