

## LETTER TO THE EDITORS

**First organ donation in Wuhan after ending of the coronavirus lockdown**

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Organ donation has been suspended for almost 3 months in Wuhan due to COVID-19 outbreak. Donation and transplantation were performed on 8th April, the very day Wuhan lifted its lockdown. Two weeks after donation, COVID-19 screenings of the liver recipient and medical staffs present negative.

On March 31, a 61-year-old man was admitted to ICU of a county hospital because of a sudden coma, which was not a designated place for patients with COVID-19 infection. Fever, cough, and contact with coronavirus-infected patient were all denied by family members. The patient was diagnosed as cerebral hemorrhage by brain CT scan, and received rescue treatments, including endotracheal intubation and intracranial pressure reduction. Considering such a patient was a potential donor, countermeasures of coronavirus cross-infection were taken, which being elaborated below. Routine examinations found moderate proteinuria and mild coagulation dysfunction, but no severe infection. Consecutive laboratory tests of SARS-CoV-2 RNA by oropharyngeal swab specimen and the serum special antibody present negative between 1st and 3rd April. Repeated brain and chest CT scan on 3rd April showed expansion of intracranial hematoma and slight dropsy pneumonia with pleural effusion, but no imaging appearances of viral pneumonia. As the patient's condition worsened, circulatory instability was difficult to correct, despite the combination of

dopamine, noradrenaline, and metaramine. Eventually, all the immediate family members determined withdrawal of the mechanical, ventilated, or organ perfusion supporting and agreed with organ donation. A 68-year-old woman, who ruled out of COVID-19 infection, received the liver graft due to the liver function failure, secondary to liver cirrhosis. Both kidney grafts were discarded because of poor pathology scorings.

Considering the intra-hospital transmission of COVID-19 [1], the potential donor ought to be quarantined in isolated ward with fixed health workers in order to lower the risk of the coronavirus infection. The duration between the donor's admission and donation should surpass 7 days, because the mean incubation period of COVID-19 is 6.4 days [2]. Repeated laboratory tests of SARS-CoV-2 RNA and serum special antibodies should be conducted for COVID-19 screening. Brain and chest CT scan can detect the progress of intracranial injury and pulmonary infection, especially the viral pneumonia. Donation must be terminated once the potential donor is suspected or confirmed with COVID-19 infection.

Three level bio-security protective measures are essential for staffs on-site during the recovery of organ, since an extraordinary 19-day incubation period was reported [3]. The remains of the donor were treated as those confirmed or suspected with COVID-19 infection. Utilization of ECMO for circulatory instable donor endows more time for COVID-19 screening [4]. Medical examination results of this donor were shared between OPO and transplant team through WeChat (APP), which reduced chance of contact transmission of COVID-19 and improves efficiency.

At the time when the epidemic fading away, prudent protective measures and excessive COVID-19 screenings are necessary throughout donation and transplantation, since infected population at incubation stage and asymptomatic carriers could be the sources of coronavirus infection [5]. Our empirically derived suggestions might be helpful for reopen donation and transplantation programs, in the context of the epidemic recession in near future.

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## Conflict of interests

All authors declare no competing interests.

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