

## Author's Reply

# Re: COVID-19 and Diagnosing Brain Death: An Ambiguity

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Dear Editor,

We are pleased that our case report about managing the first organ donation process in Turkey in the COVID-19 pandemic has been read and interpreted with interest in the academic field (1). Early recognition of patients with COVID-19 is essential to prevent transmission to healthcare professionals and patients.

Neurological manifestations of COVID-19 are various. Although ischemic stroke is much more common, COVID-19 may also be diagnosed in patients with haemorrhagic stroke (2). In the era of the COVID-19 pandemic, all patients admitted to the emergency department owing to any complaint have the potential to be in the asymptomatic period of COVID-19 regardless of clinical presentation (3). Our patient had a history of cerebrovascular aneurysms. Neurological examination showed the elevated intracranial pressure findings and strengthened the diagnosis of a possible haemorrhagic stroke. In this condition, the main issue was to decide whether to wait for the COVID-19 exclusion in the patient, wherein delaying the operation would result in severe morbidity or death.

The patient applied to our hospital on 22<sup>nd</sup> March 2020, after 11 days from Turkey's first COVID-19 case. On those days, the last COVID-19 guide had been published on 11<sup>th</sup> March 2020 by the Ministry of Health. According to this guide, the indications to perform RT-PCR tests were listed as usual symptoms of the disease, but stroke did not (4). As mentioned in the text, our patient did not have any symptoms or contact history in the last 14 days. Moreover, the Ministry of Health policy was to perform all real-time polymerase chain reaction (RT-PCR) tests in one center. If we had waited for the test result, the operation would be delayed approximately 16 hours. On the other hand, the RT-PCR test may result in false-negative as high as 30% (5). The patient's transportation processes were carried out following the guideline of our center, directing the in-hospital transfer of confirmed or suspected COVID-19 cases safely. Throughout the patient's transportation to the emergency radiology unit, operation theatre, and intensive care unit, a transport ventilator was provided for respiratory support. We placed heat and moisture exchanger (HME) filter between the intubation tube and respiratory circuit. Additionally, as a secondary barrier to prevent the

transmission, we placed a viral filter between the respiratory circuit and ventilator. When required, the respiratory circuit disconnected after temporary pausing of the ventilation and the clamping of the tube. The HME filter was kept in the intubation tube when the breathing circuit was disconnected. All healthcare professionals associated with these procedures wore personal protective equipment (PPE) such as cap, glasses, FFP3 mask, and waterproof overalls.

The apnea test was performed approximately one day later from the RT-PCR test resulted. The patient was followed-up in an isolated room in the intensive care unit. Thus, during the apnea test, we did not need to attach a HEPA filter to the patient's intubation tube, but staff in charge wore the PPE.

It is clear how to diagnose brain death and manage an organ donation process, but the literature about COVID-19 is still expanding with new findings. Thus, reviewing the literature to stay updated before this kind of procedures contributes to the process positively.

## References

1. Yakar MN, İstan P, Gürkök MÇ, Yıldız D, Yaka E, Gökmen AN. Management of an organ donation process in COVID-19 pandemic: first case of Turkey. Turk J Anaesthesiol Reanim 2020; 48: 244-7. [\[Crossref\]](#)
2. Asadi-Pooya AA, Simani L. Central nervous system manifestations of COVID-19: A systematic review. J Neurol Sci 2020; 413: 116832. [\[Crossref\]](#)
3. Hu Z, Song C, Xu C, Jin G, Chen Y, Xu X, et al. Clinical characteristics of 24 asymptomatic infections with COVID-19 screened among close contacts in Nanjing, China. Sci China Life Sci 2020; 63: 706-11. [\[Crossref\]](#)
4. Republic of Turkey Ministry of Health, COVID-19 (SARS-CoV2 INFECTION) GUIDE 11 March 2020. Available from: [http://www.atuder.org.tr/atuderData/Uploads/files/COVID-19\\_RehberiV5-11Mart2020\\_pdf.pdf](http://www.atuder.org.tr/atuderData/Uploads/files/COVID-19_RehberiV5-11Mart2020_pdf.pdf) Accessed August 31, 2020.
5. Yang Y, Yang M, Shen C, Wang F, Yuan J, Li J, et al. Evaluating the accuracy of different respiratory specimens in the laboratory diagnosis and monitoring the viral shedding of 2019-nCoV infections. MedRxiv 2020; DOI: 10.1101/2020.02.11.20021493. [\[Crossref\]](#)

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