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Additional Suggestions for Organ Donation During COVID-19 Outbreak

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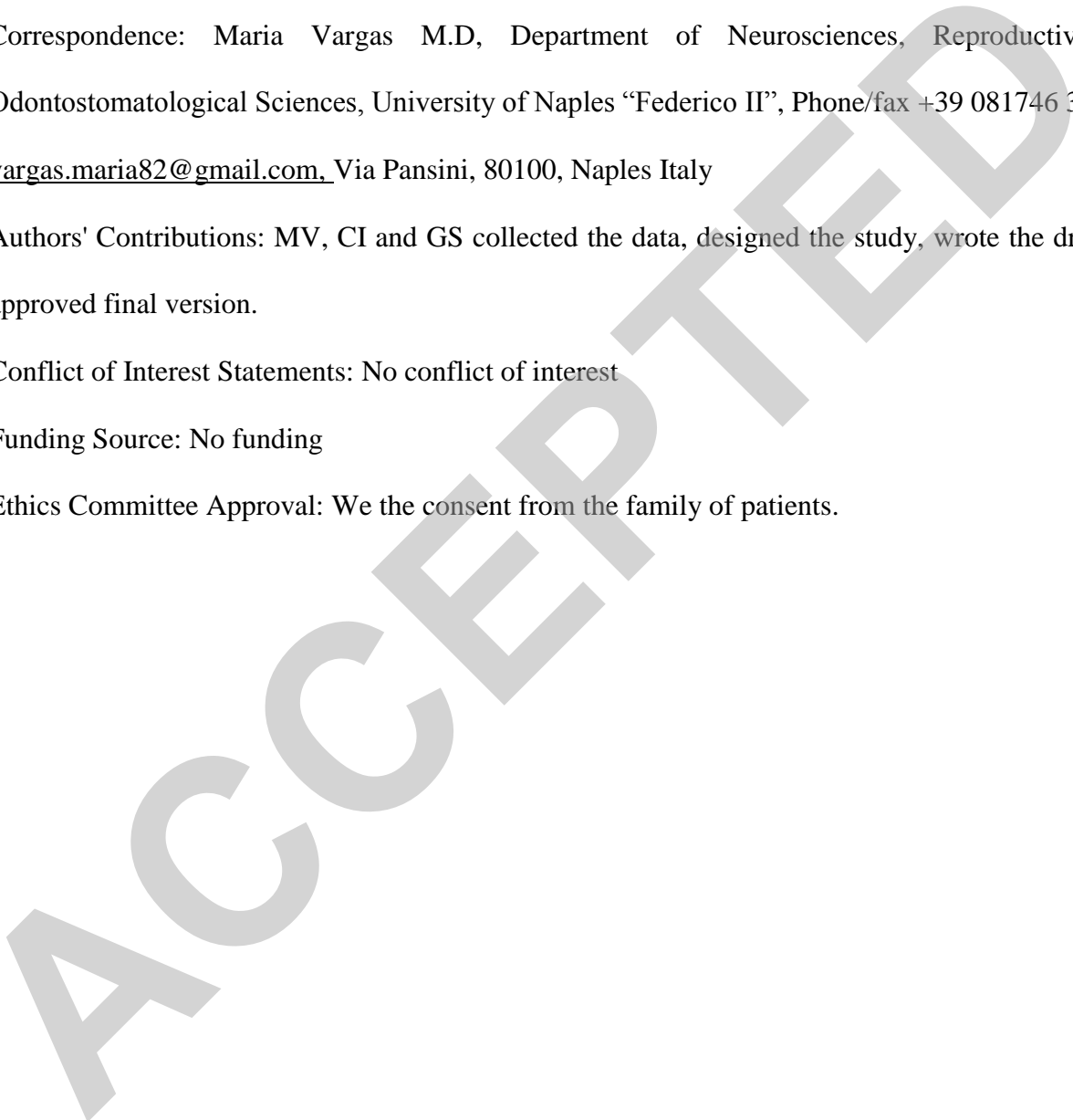
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COVID-19 is dramatically increasing in Italy, the last report from the ministry of health on the 9th of march reported the presence of 9172 confirmed cases and 733 patients in intensive care unit (ICU).¹ On the 3rd of march we admitted in our ICU a 65 years-old male patient with a diagnosis of Fisher IV - subarachnoid hemorrhage due to an arteriovenous malformation (MAV) of the anterior communicating artery. Despite the attempt of MAV clipping and medical management including intubation, ventilation, mannitol, nimodipine and close monitoring of blood pressure administrated in ICU, the patient met the criteria of brain death after 24 hours.² Suddenly we started the evaluation of brain death according the Italian law³ and, since the patient's family gave us the consent for organ donation, we informed the local and the national centers for organ recovery. At that time our hospital had no cases of COVID-19. However, since the Italian and worldwide dramatic spread of this infection⁴ we pointed out additional suggestions 1) to evaluate the possible exposures and 2) to protect from potential exposures the organ donor (Table 1).

According to our suggestions, the organ donor had no positive history for exposure and no symptoms of COVID-19. During the ICU stay the organ donor did not develop any COVID-19 respiratory symptoms, we performed a lung CT scan that was negative and, finally, the nasopharyngeal test for COVID-19 returned negative before the organ transplantations. The organs recovered and successfully transplanted were the corneas, heart, liver, and kidneys.

Regarding the healthcare personnel, we limited the access to the organ donor allowing it exclusively to personnel with negative history of exposure, without respiratory symptoms and properly equipped with personal protective equipment suggested for COVID-19. The same precautions were adopted for the surgical team responsible of the organ procurement.

According to the literature this is the first case of organ donation after brain death during the COVID-19 outbreak. We hope that our suggestions may improve the safety of organ donor and the safety of transplantation during the worldwide spread of COVID-19 cases.

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TABLE 1. Additional suggestions for organ donation during COVID-19.

Additional suggestions for organ donation during COVID-19 ¹	
Organ donor	Sudden isolation from other patients to minimize the risk of transmission from unknown COVID-19 cases
	COVID-19 testing on Broncho-alveolar lavage and/or nasal cavity specimen
	<p>Screening for:</p> <ol style="list-style-type: none"> 1. domicile, travel or prolonged stay in the zones where COVID-19 cases were currently recognized, 2. close contact with suspected or confirmed cases of COVID-19, 3. close contact with patients with respiratory symptoms at risk of COVID-19, 4. respiratory symptoms before the ICU admission
	Evaluation of the presence of possible COVID-19 respiratory like-symptoms
	Performance of lung computed tomography to assess the presence of radiological patterns of COVID-19
	Limit the access to the isolation room
	Permission to access only for healthcare personnel screened for no exposure to COVID-19 and without COVID-19 respiratory symptoms
	Allow the access only with personal protective equipment suggested for COVID-19
Organ procurement surgeons	Coming from hospitals without COVID-19 cases
	Screening for:

	<ol style="list-style-type: none"> 1. domicile, travel or prolonged stay in the zones where COVID-19 cases were currently recognized, 2. close contact with suspected or confirmed cases of COVID-19, 3. close contact with patients with respiratory symptoms at risk of COVID-19
	Absence of possible COVID-19 respiratory symptoms
	In case of COVID-19 positive screening and/or respiratory symptoms → ask for a different surgical team
	Travel with dedicated military flights properly disinfected. Avoid the use of commercial flights
	Prepare a dedicated operating room
	Access to the operating room only with personal protective equipment suggested for COVID-19

¹These suggestions implemented the Italian national guidelines for the organ donation and were closely discussed with the national center for organ donation.