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for ischaemic stroke) and 4% with argatroban.⁵ We report a much higher incidence of nearly 9%. The cases we present fulfilled the advised criteria for systemic anticoagulation. Despite four-hourly monitoring of APPT and anti-Xa activity on the intensive care unit there were significant fluxes in these laboratory markers of anticoagulation. These may be associated with the uncharted nature of this disease process. It is impossible to disassociate the necessary therapeutic-intensity anticoagulation with the observed heightened frequency of life-ending intracranial haemorrhage in these patients.

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Anesthesia for double lung transplant in a patient with confirmed COVID-19 infection: a case report

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Introduction: Lung transplantation has been performed in a small number of patients suffering from COVID-19 related pulmonary fibrosis or end-stage COVID-19 pneumonia. (1) There are no reports of lung transplantations to recipients with positive Covid-19-PCR at the time of the operation.

Methods: A 42-year-old woman without comorbidities was hospitalized and diagnosed with COVID-19 pneumonia. After being intubated and tracheotomized, VV-ecmo support had to be initiated, no tendency of improvement ensued. Lung

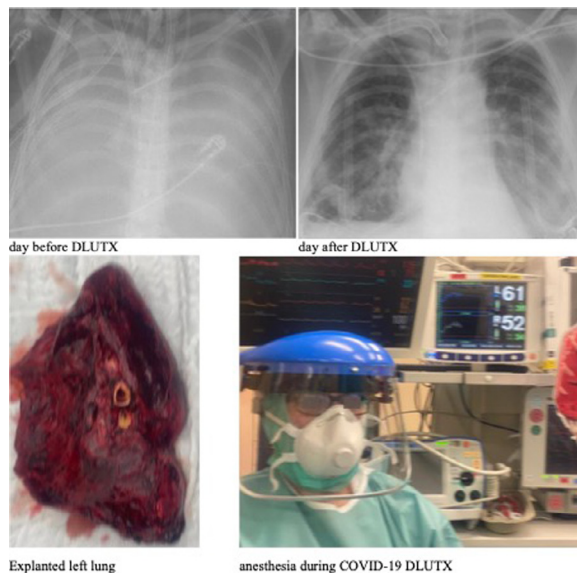
transplantation proceedings were made despite viral RNA test results from BAL being consistently positive (while negative culture growth suggested no active viral disease) since a small intracerebral bleeding had occurred after 45 days on ECMO. An adequate donor organ was found, double lung transplantation was performed.

Two experienced anesthetists, two nurse anesthetists and a runner provided anesthesia. The OR was set to positive pressure and 26 air changes h⁻¹, the team wore full PPE (multilayer gloves, gown/overall, FFP-3 masks, glasses, faceshield).

Videolaryngoscopic intubation using a ViVaSight® (Ambu, Denmark) left double lumen tube with integrated camera was performed, TEE and bronchoscopy were avoided. We used near infrared spectroscopy and total intravenous anesthesia with Propofol 5,5mg kg⁻¹ h⁻¹ and Sufentanil 5mcg kg⁻¹ h⁻¹. Being on VV-Ecmo with 4,7l of blood and 5,5l O₂ flow min⁻¹ we used a second, centrally cannulated parallel ecmo circuit with 3l of blood and 2l of oxygen flow min⁻¹, the VV circuit was reduced.

The operation was prolonged due to adhesions, coagulopathy, rupture of the dilated right atrium. Transfusion of 30 units of packed red cells, 40 units of fresh frozen plasma, 5 units of platelets, 2000IE of PPSB, 30mcg of desmopressin acetate, 5 grams of fibrinogen concentrate guided by repetitive viscoelastic testing was performed. Bilateral pulmonary edema occurred, leading to an oxygenation index of 72 on 1l min⁻¹ VV ecmo flow. We therefore switched to a femorally cannulated VA-ecmo circuit to minimize hemodynamic stress for the newly transplanted lungs.

At the end of the operation the patient was stable with oxygenation index of 76 with 2,8l min⁻¹ blood flow of ECMO support, sedated with Propofol 5,5mg kg⁻¹ h⁻¹ and Sufentanil



Explanted left lung

anesthesia during COVID-19 DLUTX

5mcg kg⁻¹ h⁻¹ and received Norepinephrine 0,06 mcg kg⁻¹ min⁻¹. We proned the patient immediately. COVID-19 polymerase chain reaction testing was performed in all team members and was negative in all cases.

Results: Discussion: Double lung transplantation is possible in selective patients suffering from COVID-19 pneumonia, intraoperative care is troublesome and strains resources due to open lung surgery and airway maneuvers increasing infection risk exponentially. (2)

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