

haemodynamically unstable with vasoactive support. He was unconscious, with a Glasgow Coma Scale (GCS) of 3, and had reactive mydriatic pupils. A plain CT scan of the brain and neck showed early signs of brain oedema, with no abnormal findings in the cervical spine. Post-resuscitation care was conducted according to the latest recommendations.

After 24 hours, all pharmacological sedation was ceased, and his circulation gradually stabilized without further need for vasoactive support. In the following days, a severe impairment of consciousness persisted, with a GCS of 3, absent corneal and pupillary reflexes, and no other brainstem reflexes. However, the patient maintained spontaneous respiratory activity. Therefore, the prognosis was assessed as very poor by consensus of the whole medical team. Taking into consideration the extent of brain damage, brain death was expected to develop. The first contact of a dedicated transplant centre was done. The treatment of the patient continued with the aim of potential organ donation according to the Czech law [8].

On the fifth day of hospitalization, the patient continued to have spontaneous respiratory activity. The medical team determined that the condition was irreversible with a very low chance of developing brain death. After consultation with the transplantation centre, donation after irreversible circulatory arrest (DCD) was proposed. No one from the medical team was against. Therefore, the family was fully informed of the patient's condition, the irreversible brain damage, and the plan to change the treatment to palliative care with a potential of organ donation. To inform the family, a structured communication approach was used. First, the information regarding poor prognosis and irreversibility of the clinical condition was addressed. Next, the transition to palliative care was communicated. Lastly, the potential of organ donation was discussed with the family highlighting that the decision is to be made by the medical team, not the relatives. The family harmonized with the idea of potential organ donation without any objections.

On the sixth day of admission, the patient was moved from the ICU to an anaesthesia preparation room for transition to palliative care. This room is situated in front of the operating theatre in a complex of central operating theatres. In the preparation room, organ support was ceased, including terminal extubation. Oxygen saturation dropped below 70% after 1 minute, and systolic blood pressure fell below 50 mmHg after 2 minutes from organ support cessation. Shortly after that, 20,000 units of heparin were administered intravenously as a preventive measure against organ thrombosis during warm ischaemia time (WIT). Circulatory arrest occurred within 7 minutes of organ support cessation. The diagnosis was based on the loss of organized electrical activity on the ECG and the absence of a pulse waveform on invasive blood pressure measurement. This was followed by a 'no-touch' interval of 5 minutes. After this time, circulatory arrest was assessed as irreversible, and the patient was declared dead. The deceased patient was handed over to the transplantation team for organ procurement. Based on a perioperative evaluation, the liver was taken. The kidneys and lungs were not taken due to high creatinine levels and severe oxygenation dysfunction due to severe pneumonia.

Case report 2

A 65-year-old male patient was admitted to the ICU of a regional hospital after an unwitnessed cardiac arrest with successful resuscitation. ROSC was achieved after 20 minutes. The cause of cardiac arrest was determined to be hypoxic, attributed to exacerbation of chronic obstructive pulmonary disease (COPD) and bronchospasm.

Upon admission to the ICU, the pupils were mydriatic and unresponsive to light, and the corneal reflex was absent. Post-resuscitation care was initiated and conducted conventionally.

After 24 hours from admission, weaning from sedation was initiated. Severe impairment of consciousness with missing brainstem reflexes persisted. The circulation was stable with no need for vasoactive support on the seventh day from admission. The patient remained unconscious with GCS 3 with no active brainstem reflexes without sedation. Spontaneous breathing was preserved.

Given these circumstances, the medical team decided in consensus on a poor prognosis and palliative care was initiated. The family was fully informed about the irreversible condition and the change of the course of treatment to palliative care, including potential organ donation. Cessation of organ support was postponed by a day because of communication with the family and potential organ donation. The same structured communication approach was used as the one described in Case 1.

On the eighth day of admission, the patient was referred to a dedicated transplant centre, and organ support cessation and subsequent organ procurement were scheduled for the following morning. Upon arrival of the harvesting team, the patient was moved to the anaesthesia preparation room to commence palliative care. Organ support was ceased there, including terminal extubation. Oxygen saturation dropped below 70% after 4 minutes, and systolic blood pressure fell below 50 mmHg after 6 minutes from organ support cessation. In coordination with the harvesting team, 20,000 IU of heparin were administered. Cardiac arrest occurred 10 minutes after initiating palliative care. This was confirmed via electrocardiogram (ECG), the absence of a pulse wave on invasive blood pressure monitoring, and ultrasound verification using point-of-care ultrasound echocardiography displaying no mechanical activity of the heart. Then, the no-touch interval began. The patient was observed for 5 minutes. After this period, circulatory arrest was assessed as irreversible, and the patient was pronounced dead. Subsequently, the deceased patient was transferred to the operating theatre and the harvesting team assumed care.

Based on an intraoperative assessment, only one kidney was harvested and then transplanted. The liver was not considered for harvesting due to a higher donor age, prolong artificial lung ventilation, the lungs were not harvested due to COPD, and the other kidney was not harvested due to severe atherosclerosis that compromised perfusion of the organ.

Discussion

Because of shortage in organ donation, the transplantation community increasingly utilizes DCD nowadays. According to the Maastricht categories, DCD can be divided into controlled and uncontrolled groups