

[1]. We present two cases of controlled DCD according to Maastricht classification type 3 (awaited cardiac arrest in controlled conditions).

In the presented cases, we report two patients after out-of-hospital cardiac arrest as protentional candidates for organ donation. The prognosis was bleak and, therefore, the option of organ donation was communicated with the family. For this purpose, we used a structured communication format, which may be beneficial [9]. In this format, the communication is divided into several steps. The first step is to inform the relatives about the poor prognosis and its irreversibility. The second step is to shift focus towards the organ donation option, highlighting that we seek the one that would best fit the patient. Lastly, the process of palliative care is explained, including the possibility of organ procurement. Crucial communication includes in-depth communication within the hospital staff.

Upon the day of organ harvesting, the patients were transported to an operating theatre anteroom. This was due to a long distance from the ICU to the operating theatres. Otherwise, this distant transport would cause prolongation of WIT. Therefore, we decided to withdraw the treatment and await circulatory death in the anteroom. If circulatory death had not occurred, palliative care would continue. Organ support was withdrawn according to the ICU conventions [10]. In our ICU, we usually perform terminal extubation as part of palliative care to avoid discomfort related to endotracheal tube placement and to support the dignity of dying [3, 9, 10].

According to ethical principles, the harvesting team should not be in the same room when the treatment is being withdrawn [9]. In our cases, the harvesting team was seated in the daily room which is part of the complex of central operating theatres. The operating theatre had been set up before arrival of the harvesting team. The harvesting team started to get ready after initiation of the no-touch interval, which is a common practice [1].

After palliative care initiation, heparin was administered pre-mortem, in coordination with the harvesting team, to prevent thrombosis during WIT. This is a common practice in many countries, including the Czech Republic [11]. However, there is a large variability in the timing and dose of pre-mortem anticoagulation therapy, which may influence the outcomes of transplanted organs [11]. It seems that pre-mortem anticoagulation therapy can lower biliary complications after liver transplantation in the recipient patient, but has limited effect on thrombosis-related complications in lung and kidney transplantations [11–13].

The accepted standard for determining circulatory death is permanent loss of circulation and respiration. This shift to the circulatory

concept means that the patient can be declared dead even if there is electrical activity of the heart. But mechanical function of the heart must be missing (mechanical asystole) [1, 8]. In our cases, we used a five-lead ECG, invasive blood pressure monitoring, and echocardiography to diagnose circulatory death. At least two monitoring modalities should be used. Current evidence shows that, due to the high prevalence of electromechanical dissociation and its duration, the ECG waveform is unreliable for accurate diagnosis and may contribute to an undue prolongation of warm ischaemia time [14]. Circulatory death must be diagnosed by two fully licensed physicians [15]. In the presented cases, both physicians were fully licensed anaesthesiologists.

In the time when systolic blood pressure drops below 50 mmHg or haemoglobin oxygen saturation drops below 70%, the functional WIT starts [1, 9]. In our cases, the WIT did not exceed 15 minutes. The longest acceptable WIT is always dependent on the organ harvesting team decision [9]. In the case of a too long WIT, organ harvesting is cancelled.

After cardiac arrest of the patient, the no-touch interval is in place. The duration may differ across different countries ranging from 2 to 20 minutes [1, 9, 14]. In the Czech Republic, the common practice is 5 minutes as it was in our cases [9, 16]. After the no-touch interval, the deceased patients were transported to the operating theatre and the care handed over to the harvesting team.

We present two successful cases of controlled DCD in a regional hospital. In both cases, there were no issues with meeting the national and European recommendations regarding DCD [1, 16]. Controlled DCD can be successfully done in a regional hospital when recommendations are followed.

Conclusion

The cases presented share a successful practice and document that DCD is also feasible in regional hospitals, which can widen the pool of donors significantly.

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Consent of publication

Written patient consent of publication was obtained from the legal surrogates of the patients.

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