

[NM-306] Use of extracorporeal membrane oxygenation for postoperative cardiac arrest in patient after repair of VSD and aortic coarctation

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**ABSTRACT:** Extracorporeal membrane oxygenation can be an effective form of management for postoperative cardiac or pulmonary failure that is refractory to medical management with published favorable outcomes in 25-50% of patients. We describe the successful use of rescue ECMO in a 6 week old who developed ventricular fibrillation resistant to standard advanced life support after repair of ventricular septal defect and coarctation of the aorta.

**CASE REPORT:** 6 week old term male admitted to the hospital with respiratory distress. Enlarged cardiac silhouette was noted on x-ray and echocardiogram revealed ventricular septal defect and coarctation of the aorta. He presented for repair of ventricular septal defect and coarctation of the aorta. Surgery proceeded with 209 minutes of cardiopulmonary bypass and 79 minutes of cross clamp. Patient was defibrillated twice in the OR after separation from bypass. Chest was left open. Patient was transported to PICU on milrinone, epinephrine, amiodarone, and calcium chloride infusions. After 20 minutes upon PICU arrival, EKG changes followed by loss of blood pressure and ventricular fibrillation was noted. Immediate CPR was initiated with PALS guidelines followed for medications and defibrillation. Open cardiac defibrillation and massage was attempted without success. ECMO was instituted 43 minutes after cardiac arrest with ascending aorta and SVC and IVC cannulation. Patient remained on ECMO with successful separation on day 7. Patient remained in the hospital for an additional three weeks prior to discharge home in good condition.

**DISCUSSION:** Rescue ECMO has been shown to be essential to the successful treatment of refractory cardiac arrest, with survival to discharge in 25-50% of patients; favorable neurologic outcomes are seen in the majority of these patients. ECMO should be considered when conventional resuscitation measures are unsuccessful. We present this case as a favorable outcome with use of rescue ECMO.

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