

SDC 6 – BRIDGE TECHNIQUES

ECMO bridging was performed with the Medtronic portable bypass system (Medtronic Bio-Console 560, Medtronic Inc., Minneapolis, USA) with a hollow fibre oxygenator (Medtronic CPMPCB Affinity BPX-80 or Affinity NT, Medtronic Inc., Minneapolis, USA) or a polymethylpentene membrane oxygenator (Quadrox, Jostra, Hirrlingen, Germany). ECMO support was used both in veno-venous (v/v) and veno-arterial (v/a) settings in this series. For cannulation of the artery, a Bio-Medicus Cannula 15-17 Fr., and for venous access, a Bio-Medicus Cannula 17-19 Fr were used (all from Medtronic Inc., Minneapolis, USA). An additional limb cannula of 8-10 Fr was used whenever clinically indicated. More recently, the single double lumen cannula (DLC) (Avalon Elite Bi-Caval dual lumen catheter, Avalon Laboratories, LLC. 2610 E. Homestead Place Rancho Dominguez, CA 90220) (28) was used in two patients.

If patients were switched to central cannulation intraoperatively, a Medtronic DLP 22 Fr. Curved Tip cannula was used in the ascending aorta, and a Medtronic MC2X Three Stage 29/37 Fr. venous cannula was used in the right atrium. Both, the cannulae and the circuits were fully heparin coated (Medtronic Carmeda BioActive Surface). Priming solution consisted of 200 ml Ringer's Lactate solution. The flow was set according to clinical needs.

Pumpless ECMO support was performed with the recently described Novalung (iLA, Novalung GmbH, Hechingen, Germany) device (8), which allowed a arterio-venous pulsatile blood flow driven by the cardiac output over a low resistance, protein matrix coated diffusion membrane. Cannulation was performed with Seldingers technique, using a 15F cannula for the left femoral artery and a 17F cannula for the right femoral vein. Priming solution was 0,9% NaCl.