**Supplementary Table: Review of pediatric ECPR in cardiac ICU literature**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author  Year | Study time and location | Patient population | No. ECPR patients | CPR duration | ECMO duration | Survival to hospital DC | Factors associated with mortality | NR outcomes in ICU | NR outcomes at hospital DC or follow up |
| Morris2  2004 | 1995-2001  Philadelphia | Cardiac ECMO | 57 | 47.5 mina | - | 37% | - | - | Chart review  29% “delay”  (in CPR >60min) |
| Shah18  2005 | 2001-2004  Vanderbilt | Cardiac ECMO  (postcardiotomy) | 27 | - | - | 33% | ECPR did not affect outcomes | - | - |
| Allan25  2006 | 1996-2004 Boston | Cardiac ECMO  (in cath lab) | 19 | 29 mina | 84 hrsa | 79% | No factors found | 47% seizures /  Encephalopathy with NR imaging correlation | Chart review  20% “persistent deficits”,  40% “ mild deficits” |
| Thourani26  2006 | 2002-2004  Atlanta  (Egleston) | Cardiac ECMO | 15 | 54 mina | 48 hrsa | 73% | - | - | - |
| Ghez27  2007 | 2003-2006  France | Cardiac ECPR | 14 | 44 minb | 144 hrsb | 57% | - | 7% ischemia NR imaging | - |
| Chan19  2008 | 1992-2005  ELSO | Cardiac ECPR | 492 | 16 mina | 87 hrsa | 42% | CNS injury, AKI, ↑bili  pH < 7.2, GI/pulm hemorrhage | 12% seizures  10.5% injury in NR imaging | - |
| Huang21  2008 | 2002-2008  Taiwan | Cardiac ECPR | 27 | 50 mina | 120 hrs surva  89.2 hrs nonsurva | 41% | AKI | 18% coma  11% stroke/hypoxia in NR imaging | PCPC scoring  10% PCPC 3-4 |
| Alsoufi20  2009 | 1990-2007  Toronto | Cardiac ECMO  (postcardiotomy) | 48 | - | - | 46% | No factors found | - | - |
| Kumar11  2010 | 2003-2008  Washington DC | Cardiac ECMO (postcardiotomy) | 29 | 46 mina | - | 41% | Prolonged CPR | - | - |
| Kane6  2010 | 1998-2008  Boston | Cardiac ECPR | 172 | 33 mina | 101 hrsa | 51% | pH <7, CNS injury, AKI, ECMO duration, ↑lactate | 52% clinical or NR imaging CNS injury | PCPC scoring  21% PCPC 3-4 |
| Sivarajan12  2010 | 2002-2006\*  Melbourne | Cardiac ECPR | 37 | 30 mina | 103.2 hrsa | 38% | Prolonged CPR | 29% clinical or NR imaging CNS injury | PCPC scoring  67% PCPC 3-4 |
| Wolf28  2012 | 2002-2011  Atlanta (Emory) | Cardiac ECPR | 90 | 42 min surva  43 min nonsurva | 72 hrs surva  120 hrs nonsurva | 56% | ECMO duration, SV physiology | - | Chart review  42% “non-normal fx neurologic status” |
| Philip23  2014 | 2005-2012  Texas | Cardiac ECPR | 59 | 67% > 30 minb | 76 hrsa | 46% | No MV at arrest onset, pre-existing AKI | 25% “severe NR injury” | POPC scoring  32% POPC 3-4 |
| Polimenakos29  2017 | 2007-2011  Oak Lawn, IL | Cardiac ECPR  (postcardiotomy neonatal SV) | 21 | 36 mina | 168 hrsa | 62% | ECMO duration, failure lactate clearance 24h | 19% clinical or NR imaging CNS injury | 10% non “neurologically intact” |
| Erek22  2017 | 2010-2014  Turkey | Cardiac ECPR  (postoperative) | 25 | 8% < 20 minc  44% 20-40 minc  48% >40 minc | 72 hrsa | 20% | Prolonged CPR, palliative Sx | 8% “severe CNS impairment” | Chart review  18% “severe CNS deficit” |
| Guo24  2018 | 2017  China | Cardiac ECPR  (postoperative) | 11 | 60 mina | 72 hrsa | 36% | ↑Peak lactate, ↑peak creatinine | 25% intracranial bleeding in NR imaging | - |
| Shakoor30  2019 | 2010-2017  NY (Columbia) | Cardiac ECPR | 70 | 62 min survb  59 min nonsurvb | 121 hrs survb  167 hrs nonsurvb | 54% | CRRT, stroke | 44% CNS injury NR imaging, 0.06% clinical CNS injury | - |

\* Recent cohort, a median, b mean, c number

AKI: acute kidney injury, bili: bilirubin, CNS: central nervous system, CPR: cardiopulmonary resuscitation, DC: discharge, ECMO: extracorporeal membrane oxygenation, ECPR: extracorporeal cardiopulmonary resuscitation, fx: functional, GI: gastrointestinal, hrs: hours, ICU: intensive care unit, lab: laboratory, min: minutes, MV: mechanical ventilation, No.: number, nonsurv: non-survivors, NR: neurological, PCPC: pediatric cerebral performance categories, pulm: pulmonary, sx: surgery, SV: single ventricle, surv: survivors, nonsurv: non-survivors, -: no data available/not analyzed