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CLINICAL BENEFIT OF CYCLOSPORIN A IN PAEDIATRIC CARDIOPULMONARY RESUSCITATION

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Cyclosporin A is beneficial in reducing reperfusion injury to brain tissue in experimental studies.
Methods: retrospective comparison of outcomes after cardiopulmonary resuscitation in children with congenital or acquired heart disease, and children who underwent cardiac transplantation and were under treatment with Cyclosporin A; between 1990-2000. Patients surviving to 3 months following cardiac arrest lasting over 7 minutes were assessed using neurodevelopmental scoring systems (Pediatric Cerebral, and Overall, Performance Category scales). Of 180 patients with recorded cardiac arrest, 84 patients had episode lasting over 7 minutes (15 post-transplant patients-18%) – study cohort.
Results: There were 2 survivors from 69 non-transplant patients (3%) and 8 survivors from 15 transplant patients (53%;$p<0.001$). Duration of cardiac arrest was not different in 8 transplant survivors (mean 32 minutes,median 10 minutes,range 7–130 minutes) compared to 2 non-transplant survivors (mean 11 minutes,range 7–15 minutes;$p=0.5$). The lowest pH value recorded during cardiac arrest in 2 subgroups did not differ (mean 7.13,median 7.1,range 6.7-7.5 versus mean 6.95,range 6.9-7.0;$p=0.56$).
Neurodevelopmental scores did not change in transplant cardiac arrest survivors 3 months after hospital discharge (median 1,range 1-3,mean 1.5) from their pre-arrest scores (median 1,range 1-3,mean 1.3;$p=0.22$). The 2 surviving patients from non-transplant group had impaired scores from pre-arrest values at 3 months after discharge.
Conclusions: We believe our results support neuroprotective role of Cyclosporin A in paediatric clinical practice and our longer than usual resuscitation efforts in some of the patients allowed us to observe these interesting clinical results.