

**P-154**

**Neurological Complications after Surgery for Congenital Heart Defects in Children – A 15-Year Retrospective Survey**

*Askfelt A. (1), Johansson Ramgren J. (2), Malm T. (2), Wingren P.(3), Liuba P.(1)  
Pediatric Cardiology (1), Cardiac Surgery (2) and Radiology (3), Skåne University Hospital, Lund,  
Sweden*

Background: Major advances in cardiac surgery and postoperative care for patients with congenital heart defects have resulted in significantly improved survival. Postoperative neurological complications remain an important concern in terms of morbidity. We sought to determine the incidence and onset of neurological complications in children after cardiac surgery.

Method: We performed a retrospective survey of all cases with suspected neurological complications after cardiac surgery between 2001 and 2015 at the Skåne University Hospital. Data included birth characteristics, cardiac diagnosis, pre-, intra- and postoperative variables. A postoperative neurological complication was defined as detected brain injury on either computer tomography (CT) or magnetic resonance imaging (MRI) within 30 days after cardiac surgery.

Results: During the study period, a total of 4707 pediatric cardiac surgeries were performed at our center. Neurological complications based on clinical findings were suspected in 40 (0.8%) patients and were eventually confirmed in 20 patients (0.4%). Confirmed brain injury had no correlation with cyanotic CHD, age at surgery, preoperative oxygen saturation or cardiopulmonary bypass (CPB) time. Paresis was the initial symptom that was most often associated with positive CT or MRI findings (51%;  $p=0.02$ ), whereas seizure was more often encountered among patients with negative CT or MRI findings (55%;  $p=0.01$ ). In the majority of cases with confirmed neurological complication, the symptoms started within the first week after surgery (median: 2 days; 1-29).

Conclusion: The incidence of neurological complications in children operated for congenital heart defects at our center is very low. The majority of such complications occur during the first week after surgery. There was a significant correlation between the clinical presentation in form of paresis and verified brain injury.