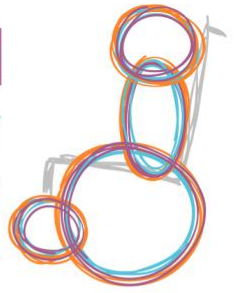


Open heart surgery in newborns: what are the challenges?

childhood
disability
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Summary

This study examined developmental outcomes in 5-year old children who were born with a congenital heart defect. In particular, the study examined children who required surgery in the first few days or months of life. The results of the study found that the children who had received heart surgery scored low to average on their intelligence quotients (IQ) tests at school entry. About 20% of the children had IQ scores that were less than 80, placing them at risk for learning challenges. Their receptive language performance (i.e. ability to understand) was similar to other children. However, behavioral difficulties were common in these children, especially internalizing problems. These included anxiety, social withdrawal, and problems with sleep. Overall, children were able to carry out everyday activities as expected for their age, although a subset of children were more dependent than their peers. Children in this study were more likely to have developmental delays and activity limitations if they had experienced the following: an abnormal neurologic examination or microcephaly after open heart surgery; if they needed repeated surgeries to correct a defect; or if they needed surgery done at an older age in infancy. In summary, this represents a high-risk group for developmental challenges at school entry, which may heighten the risk for academic difficulties and decrease participation in community and home-based activities later on in childhood.

What practitioners should know

Children with congenital heart defects are at high risk for persisting developmental delays as they reach school age. It is important that developmental progress is carefully monitored by the cardiology team at key points in the child's development, so that children with difficulties in particular domains can be referred to specialists for appropriate interventions and resource supports. The cardiology team may consider including developmental specialists to screen the developmental progress of children with congenital heart defects who required open heart surgery, at key transition points in child development, to include school entry (kindergarten).

Reference

Majnemer, A., Limperopoulos, C., Shevell, M., Rohlicek, C., Rosenblatt, B. & Tchervenkov, C. (2008). Developmental and functional outcomes at school entry in children with congenital heart defects. *Journal of Pediatrics*, 153, 55-60.