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Communications Orales

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CO 1

Screening for neurodevelopmental disorders in children with congenital heart disease

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Background Neurodevelopmental disorders (NDD) are the most common, and potentially the most damaging sequelae in children with congenital heart disease (CHD) [1]. All areas could be affected impacting social adaptation, academic achievements, and quality of personal and family life even in adulthood. In our region, there is currently no specific additional follow-up for children with CHD.

Aims The objective was to assess the frequency of NDD in children with « significant » CHD (mild and moderate operated CHD, severe CHD), associated factors and frequency of follow-up in developmental therapies.

Methods This is a prospective observational study on children with significant CHD aged from 6 to 66 months conducted over a period of 6 months. Ages & Stages Questionnaire in French, Third Edition (ASQ-3) was used to screen neurodevelopmental domains. NDD were defined as cut-off scoring ≤ 1 SD below the normative mean. -1 SD corresponding to «Monitor» range: children with minor or emerging disorders; -2 SD corresponding to «Refer» range: children exhibiting neurodevelopemental delays. Socio-medico-surgical data were collected to assess associated factors and follow-up in developmental care services.

Results Among the 210 included children, the rate of NDD was 60,0% ($n=126$, 95%CI(53.4 - 66.6)). 40 children were in «Monitor» range, and 86 in «Refer» range. There was no difference regarding the severity of CHD ($P=0.99$). Only presence of comorbidities (OR = 2.1; 95%CI(1.1 - 4.2); $P=0.02$) was a significant associated factor of NDD in multivariate backward logistic regression analysis. 46 children with NDD had no follow-up in developmental services (among them 21 were in «Refer» range) despite provision of pathway of care for children with NDD.

Conclusion Children with CHD are at risk for NDD regardless of the severity of the CHD. Systematic and early monitoring in a specific program of care is necessary for all children with CHD for a better long-term prognosis.

Keywords Congenital Heart Disease; Neurodevelopmental disorders; Children; Outcome; Comorbidities

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Disclosure of interest The authors declare that they have no competing interest.

Reference

[1] Marino BS, Lipkin PH, Newburger JW, Peacock G, Gerdes M, Gaynor JW, et al. Neurodevelopmental outcomes in children with congenital heart disease: evaluation and management: a scientific statement from the American Heart Association. Circulation 2012;126(9):1143—72.

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Abbreviations: CHD, Congenital Heart Disease; NDD, Neurodevelopmental Disorders.

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