GASTROSTOMY TUBE FEEDING AFTER NEONATAL COMPLEX CARDIAC SURGERY IDENTIFIES THE NEED FOR EARLY DEVELOPMENTAL INTERVENTION

M. Florencia Ricci MD, Gwen Y. Alton RN MN, Charlene M. T. Robertson MD FRCPC and The Western Canadian Complex Pediatric Therapies Follow-up Group, Stollery Children’s Hospital and Glenrose Rehabilitation Hospital

INTRODUCTION

Early Developmental Intervention (EDI) programs assist children who have, or are at risk of having, developmental delay. EDI is known to positively impact outcomes across developmental domains, including health, language, cognitive and social/emotional development as well as family empowerment. Gastrostomy feeding is indicated in children with swallowing difficulties to prevent aspiration and lung disease, and to enhance growth and nutrition. Therapy after tube placement includes oral stimulation, and encouragement of communication and motor skills.

METHODS

387 survivors requiring early CCS with cardiopulmonary-bypass, 2004-2012, were assessed at 21±3 months of age with the Bayley Scales of Infant and Toddler Development, 3rd ed. (cognitive, language, motor) and the Adaptive Behavior Assessment System-II: General Adaptive and self-care skills. Delay was determined by scores >2 SD below mean, i.e. scores in the lowest 2.27% of normative population. Fisher’s Exact test compared groups.

RESULTS

94 (24.3%) of 387 survivors had gastrostomy: 51 (54.3%) of these had a Single Ventricle defect, 51 (54.3%) were males, and 14 (14.9%) had a chromosomal abnormality.

CONCLUSION

Developmental Delays are more common among CCS survivors presenting with gastrostomy: 6.6 times more frequent in some areas of development. Almost half of these children have at least one delay. Gastrostomy clearly identifies risk for delay and the need for EDI.

IMPLICATIONS

The major contribution of this study is a simple way to enhance prompt identification of at risk survivors after CCS in order to maximize the benefits of EDI. Results will be disseminated to end-users including pediatricians, acute care staff and community EDI programs.

RESEARCH QUESTION

Does the presence of a gastrostomy feeding tube in an infant after Complex Cardiac Surgery (CCS) identify the need for EDI?

OBJECTIVE

To compare the proportion of different types of developmental delay in CCS survivors with and without gastrostomy feeding tube.