

Fetal myelomeningocele surgery: preschool functional status using the Functional Independence Measure for children

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OBJECTIVE: To study preschool functional status in children following fetal myelomeningocele (fMMC) surgery.

MATERIAL AND METHODS: Prior to the NICHD-MOMS trial, 30 fMMC underwent standardized neurodevelopmental examination at 5 years of age. Functional status was determined with the Functional Independence Measure (WeeFIM), which assesses self-care, mobility, and cognitive independence.

RESULTS: Evaluations were completed in 26 (87%). Mean cognitive (93.0 ± 21.9), self-care (66.5 ± 23.9), mobility (82.3 ± 19.5), and total (77.9 ± 20.3) functional quotient of fMMC children were significantly lower than age-matched population norms ($P < 0.01$). Complete caregiver independence was achieved by 22 (84%), 10 (38%), 16 (62%), and 15 (58%) fMMC children for cognition, self-care, mobility, and total functional outcome, respectively. Cognitive, mobility, and total independence were higher in non-shunted than shunted fMMC children ($P = 0.02$, $P = 0.02$, and $P < 0.01$, respectively) and in fMMC children with average neurodevelopmental scores ($P < 0.001$, $P = 0.01$, and $P < 0.01$, respectively). Self-care independence tended to be higher in the non-shunted group and in fMMC children with normal neurodevelopmental outcome ($P = 0.07$ and $P = 0.09$, respectively).

CONCLUSION: The majority of fMMC children achieved cognitive and mobility independence, but continue to require significant assistance in self-care. Non-shunted and fMMC children with normal neurodevelopmental outcome were more likely to be independent in daily living activities. Better understanding of the extent of functional limitations following fMMC surgery will allow for more effective early interventions geared toward maximizing independence in everyday tasks in all environments.

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