Late gestational intrauterine myelomeningocele repair does not improve lower extremity function.

Submitted by abartol on Tue, 10/08/2013 - 11:41am

Title
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Publication Type
Journal Article

Year of Publication
2003

Authors
R Tubbs, S M Chambers, R, Smyth, MD, Bartolucci, AA, Bruner, JP, Tulipan, N, W Oakes, J

Journal
Pediatr Neurosurg

Volume
38

Issue
3

Pagination
128-32

Date Published
2003 Mar

ISSN
1016-2291

Keywords
Female, Fetal Diseases, Gestational Age, Humans, Infant, Newborn, Leg, Meningomyelocele, Paraplegia, Perinatal Care, Pregnancy, Pregnancy Outcome, Psychomotor Disorders, Time Factors, Treatment Outcome, Uterus

Abstract

OBJECTIVE: To determine whether intrauterine myelomeningocele repair performed at between 20 and 28 weeks gestation improves lower extremity function (LEF).

METHODS: Thirty-seven consecutive patients who had undergone intrauterine repair of their myelomeningocele at Vanderbilt University Medical Center had their lower extremity function and radiographic level (first defective vertebral level) compared to these same parameters in 40 controls who had undergone traditional postgestational repair of their myelomeningocele at the Children's Hospital in Birmingham, Ala., USA.

RESULTS: Of all 77 patients (controls and study group), 13 had a LEF that matched their radiographic level, 27 had a LEF that was rostral to their radiographic level, and 37 had a LEF that was caudal to their radiographic level. Further stratification revealed that for the intrauterine repaired myelomeningoceles, 11% had no difference between LEF and radiographic level, 43% had a LEF that was rostral to their radiographic level, and 46% had a LEF that was caudal to their radiographic level. For those closed in a traditional manner, LEF matched their radiographic level, was rostral to their radiographic level, and was caudal to their radiographic level in 22.5%, 27.5%, and 50% respectively. However, the overall mean differences between institutions produced a p-value of 0.2026 (paired t-test).
CONCLUSIONS: Although the current timing of intrauterine myelomeningocele repair has been found to lessen the degree of herniation of the rhombencephalon and reduce the incidence of shunt-dependent hydrocephalus, it does not statistically improve LEF. Parents should be advised of these findings prior to surgical intervention so as to focus their expectations.