

Poster presentation

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Determination of risk factors & evaluation of the outcome of patients with spina bifida aperta

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from 49th Annual Meeting of the Society for Research into Hydrocephalus and Spina Bifida
Barcelona, Spain, 29 June – 2 July 2005

Published: 30 December 2005

Cerebrospinal Fluid Research 2005, **2**(Suppl 1):S57 doi:10.1186/1743-8454-2-S1-S57

Introduction

Spina Bifida is a term used for all forms of open spinal defects from myeloschisis to meningocele. The etiology & pathogenesis is still not yet clear. The risk factors and treatment aspects are still under review and debate. We have assessed several possible risk factors including; Birth order, sex, maternal age, maternal obesity, consanguineous marriage, miscarriages, occupation, geographical area of residence and also followed the outcomes after surgical treatment.

Methods

Prospective study of patients of all ages presenting to the neurosurgical department from 1998 to 2002. Patients and parents fully assessed and investigated for risk factors and any abnormalities. All data was collected and analysed for etiological and predisposing factors. Patients treated had surgical repair carried out in standard five layer closure with patients discharged on day eight. The surgical outcome was assessed at six months

Results

34 patients. Mean age 2.1 yrs (range 1 day to 25 yrs old). 13 females, 21 males. Location of spina bifida aperta were 10 lumbar, 13 lumbosacral, 9 dorsolumbar and 2 dorsal. Defects were 4 meningocele, 21 myelomeningocele and 9 lipomyelomeningocele. 29 patients underwent surgical repair, 10 of which were shunted for hydrocephalus, 9 of these 10 were myelomeningoceles and 1 meningocele. 5 patients had csf collections at repair site. 2 deaths due to meningitis occurred preoperatively. 4 patients had improved neurologically post operatively the rest showed no improvement in any existing neurology. No patients deteriorated in neurological function. 8 patients were 1st

born and 17 were 4th & higher order. Maternal age mean 28.6 (range 16 yrs to 40 yrs). 8 patients were from consanguineous marriages, and 8 from mothers who had previous miscarriages. 90% of mothers were housewives with a Mean Body Mass Index of 23.9. 15 out of 34 families lived in hilly areas.

Discussion

Risk factors found from this study were, consanguineous marriages, first born and high birth order, teenage birth and high maternal age. A higher incidence in males was found. Meningoceles had the best outcome, whilst myelomeningoceles outcome varied. Most common complication being hydrocephalus requiring a shunt. Neural tube defects have a multifactorial origin and further research and education is required for establishing associated factors and improving treatment.