High Incidence Of Myelomeningocele In Southern Israel: Epidemiology, Surgical experience and long term implications

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Introduction

Myelomeningocele (MMC) is the most common neural tube defect and is the most severe birth defect compatible with survival. The incidence of MMC in western countries is approximately 1:10,000 births. MMC is characterized by a cleft in the vertebral column with a corresponding skin defect leading to exposed meninges and spinal cord. Severe motor and sensory deficits are common. Lack of folate consumption during pregnancy is a known risk factor. Surgical repair of MMC is usually performed during the first days of life. 90% of newborns with MMC will have enlarged ventricles, requiring CSF diversion procedures in most cases. Shunt infection rates are high in this population – 50% versus 5%-15% among other shunt dependent patients.

Lumbosacral MMC, pre-operative

Methods

Retrospective analysis of the MMC population born in southern Israel between the years 2000-2014.

Results

44 infants were born with MMC, out of 184,918 total births. The calculated incidence was 2.38:10,000 births. 41 patients (93.2%) belong to the Bedouin community, a subgroup within the Arab minority in Israel. In 37 cases surgical repair of the MMC was performed, after 2.9 days from birth. 7 infants were not operated due to their parents' decision, with average survival of 5.14 days. In 27 cases ventriculo-peritoneal shunt was inserted, after average period of 50.5 days since birth. Shunt infection was noted in 10 cases (37%) after mean time of 61.3 days from shunt insertion. Additional surgical interventions included revision of surgical wound in 3 cases, cord untethering in 3 cases and shunt revision in 5 cases. Mortality rate was 5.4% (2 patients).

Conclusions

The incidence of MMC in southern Israel is high, especially among minorities. Therefore, a better patient education program and preterm surveillance are required. The high survival rates emphasize the need for appropriate network of care for these patients.

Lumbosacral MMC, post operative

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