Fetal Spina Bifida Repair -- Current Trends and Prospects of Intrauterine Neurosurgery

Myelomeningocele is a common dysraphic defect leading to severe impairment throughout the patient’s lifetime. Although surgical closure of this anomaly is usually performed in the early postnatal period, an estimated 330 cases of intrauterine repair have been performed in a few specialized centers worldwide. It was hoped prenatal intervention would improve the prognosis of affected patients, and preliminary findings suggest a reduced incidence of shunt-dependent hydrocephalus, as well as an improvement in hindbrain herniation. However, the expectations for improved neurological outcome have not been fulfilled and not all patients benefit from fetal surgery in the same way. Therefore, a multicenter randomized controlled trial was initiated in the USA to compare intrauterine with conventional postnatal care, in order to establish the procedure-related benefits and risks. The primary study endpoints include the need for shunt at 1 year of age, and fetal and infant mortality. No data from the trial will be published before the final analysis has been completed in 2008, and until then, the number of centers offering intrauterine MMC repair in the USA is limited to 3 in order to prevent the uncontrolled proliferation of new centers offering this procedure. In future, refined, risk-reduced surgical techniques and new treatment options for preterm labor and preterm rupture of the membranes are likely to reduce associated maternal and fetal risks.
and improve outcome, but further research will be needed.

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