

Experience of prenatal fetoscopic open spina bifida repair in a Middle-Income Country

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Objective

Prenatal repair of open spina bifida decreases the need for ventriculoperitoneal shunting and increases the chances of independent ambulation. Previous studies in high-income countries have reported additional benefits of fetoscopic open spina bifida repair, reducing maternal and fetal/neonatal risks while preserving the neurologic benefits of in utero surgery to the child. There are no studies reporting the experience of this techniques in middle- or low-income countries. Therefore, the objective of this study was to describe a case series of prenatal fetoscopic open spina bifida repair in a middle-income country.

Methods

To report obstetrical, perinatal, and neurosurgical outcomes in the first 12 months of life of children undergoing prenatal fetoscopic repair of open spina bifida included in an obstetric center in Barranquilla, Colombia. The procedures were performed at the Clinica General del Norte in Barranquilla, with the prior approval of the patient and the institution's ethics committee.

Results

A total of nine patients have undergone prenatal fetoscopic repair of open spina bifida in our center between 2019 and 2022. The median gestational age at surgery was 25.6 (24.5 – 26.4) weeks. The anatomic level of spinal lesions were between L5 and S1 (44.4%), L1-L2 (22.2%), thoracic (11.1%), and L3 or lower (22.2%). The mean gestational age at delivery was 37 (29.5 – 37.7) weeks. The rate of term delivery (> 37 wk) and vaginal deliveries were 71.4% and 57%, respectively. At the latest follow-up, only one patient required treatment for hydrocephalus, and the distribution of motor function compared with the upper anatomic level of the lesion in the neonates was improved, without cases of perinatal death.

Conclusion

Prenatal fetoscopic repair of open spina bifida in a middle-income country is feasible and has comparable prenatal and postnatal outcomes to what has been reported in high-income countries, reducing the prematurity rate, allowing having a vaginal delivery, and thereby reducing unnecessary maternal and fetal risks.