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Cervical Meningocele- A Case Report

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Abstract
Cervical meningocele is a rare form of spinal dysraphism. We report a neonate with isolated cervical meningocele and no neurological deficit. Usually trivial, we need to follow up for tethered cord. Ultrasound can be effective in diagnosing meningocele. Periconceptional folic acid supplementation needs to be emphasized for next pregnancy.
Keywords: *Spina bifida, Cervical meningocele, Congenital anomaly, Neural tube defect.*

Introduction

Cervical meningocele means herniation of CSF filled meninges through vertebral defect without spinal cord in it in the cervical region(1). Spina bifida occurs with a prevalence of 0.5 to greater than 10 per 1000 pregnancies(2). Cervical meningoceles are rare spinal dysraphism, minor defects in nature accounting for approximately 7% of all cystic spinal dysraphism(3). Clinical course is most of the times benign. There is often no neurological deficit in infants with cervical lesions unlike lumbosacral dysraphism, thus the subtle features of cervical cord tethering may be overlooked on imaging. Treatment include resection of the lesion and untethering, when tethering present. We report a newborn with true cervical meningocele with no neurological deficit.

Case Report

A21 years old primigravida married non consanguineously, conceived spontaneously with no antenatal complications. There was no history of periconceptional folic acid supplementation. There was no teratogenic drug intake or family history of neural tube defects. Antenatal scans especially Targeted Imaging for Fetal Anomaly (TIFFA) scan were normal. There were no serological tests done for detection of aneuploidy or neural tube defect.

She delivered a girl baby delivered by elective LSCS at 40weeks of gestation in our institution. She was vigorous at birth with APGAR score of 8 and 9 at 1 and 5 minutes respectively. She weighed 2.8Kg and appropriate for gestational age. On examination,9mm x 4mm sized, pear shaped, fluctuant, trans illuminant, non-pulsatile swelling with a narrow, sessile base covered with full thickness skin noted in the posterior part of the neck in midline which became tense when the baby was crying, otherwise collapses. Vitals were stable, systemic examination including Neurological examination was normal. There

were no signs of neurofibromatosis such as café au lit spots. There was no lower limb hypertonia, CTEV or paucity of movements.

Ultrasonogram of neck revealed ahypoechoic and pear-shaped lesion of 9x4mm with no demonstratable communication with subarachnoid space. No calcification or fat with in lesion. It was not associated with tethering of cord or hydrocephalus. Color doppler showed no vascularity.

As baby was stable, she was started on breastfeeding which she tolerated well. Baby was moving all 4 limbs and no hypertonia of lower limbs.

Neurosurgeon advised to manage conservatively and follow up for neurological deficits, hydrocephalus and serial scanning of the spine. Mother was advised to position the baby in such a way to avoid undue pressure on the lesion. She was also counselled about the condition and prognosis of the baby. She was advised to take 4mg of periconceptional folic acid when she plans next pregnancy along with antenatal screening for neural tube defects. So far, the baby is not having any neurological deficits and no hydrocephalus. MRI is planned later.

Fig 1

Discussion

True Cervical meningocele with posterior location of type 3 according to Salomao is rare[3]. Multifactorial etiology including Genetic(Planar Cell polarity) mutations and environmental Folic acid deficiency had been proposed[2]. Usually it will be associated with Split cord malformations, Arnold Chiari Malformations, corpus callosum agenesis and hydrocephalus[4,5]. It is evident that tethered cervical cord is closely associated with cervical myelomeningocele and meningocele. Tethered cervical cord will cause gradual neurological deterioration over the years if not treated. Upper limb Motor function will be mainly affected except pure meningocele[6]. Mechanism for tethered cord are limited dorsal myeloschisis (a taut fibro neurovascular stalk that extends from the dorsal column of the cord to the dorsal dura of the sac) and type II split cord malformation (a median fibrous septum between the two hemicords tethers them to the dorsal dura).

MRI Brain needs to be done to confirm the diagnosis and presence of associated anomalies which can determine the prognosis of this condition. But getting a MRI under general anesthesia can be difficult in neonate due to pressure effect on the cyst and associated anomalies which might cause respiratory depression[7]. Ultrasonography is a very useful tool in this scenario but underestimated and underutilized[1]. Cervical meningocele needs to be successfully treated with surgery to prevent neurological complications[5,8]. Surgical excision of the sac and intradural sac exploration is the procedure of choice[9]. Isolated Cervical meningocele has better prognosis[10].

Conclusion

Cervical meningocele is a very rare malformation usually associated with good prognosis. Ultrasound can be effective diagnostic tool and prognosticate the condition. Need to follow up for tethering of cord. Meticulous Antenatal screening and periconceptional folic acid supplementation be done to prevent babies being born with neural tube defect.

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