J Cases Obstet Gynecol, 2015;2(3):66-68

Case Report

Prenatal diagnosis of fetal giant cervical meningocele at second trimester having a good neonatal prognosis

Ayse Kirbas*, Ebru Hacer Biberoglu, Nuri Danisman

Department of Perinatology, Zekai Tahir Burak Women's Health Education and Research Hospital, Ankara, Turkey

Abstract

Cervical meningocele is a very rare condition. Unlike lumbosacral dysraphic lesions, there is often no neurological deficit in infants with cervical lesions. There are a limited number of studies regarding cervical dysraphic lesions in the literature, especially in utero cases. Herein, we present the case of a giant cervical meningocele that was diagnosed at the 21th week by USG. Fetal magnetic resonance imaging (MRI) further demonstrated that there was no relationship between intracranial structures. Fetal karyotype was normal. After undergoing prenatal counseling, the parents decided to continue the pregnancy. At 38 weeks of gestation, the mother was admitted to our emergency unit for bleeding and pain with breech presentation, and a live baby boy weighing 3310 g was delivered by emergency caesarean section. A neurological examination performed at birth was unremarkable, and there was no sign of cerebrospinal fluid leakage. The baby was operated on at ten days of life.

Key words:

Cervical meningocele, prenatal diagnosis, fetal, ultrasound, neural tube

Introduction

Cervical meningocele is a very rare condition, accounting for 1–3% of all neural tube defects [1]. Unlike lumbosacral dysraphic lesions, there is often no neurological deficit in infants with cervical lesions [2]. There are a limited number of studies regarding cervical dysraphic lesions in the literature, especially in utero cases. In this report, we present the case of a giant cervical meningocele that was diagnosed in utero with good prognosis.

Article history:
Received 09 10 2014
Accepted 15 12 2014

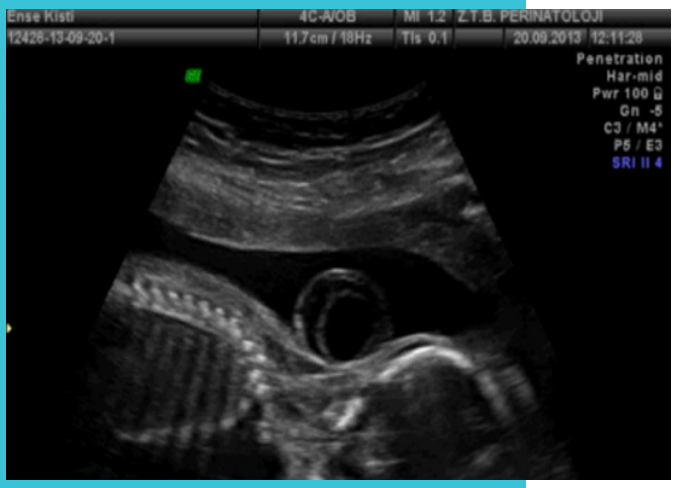
*** Correspondence:** Ayse Kirbas. Cankaya Mahallesi, Ziaurrahman Caddesi, 4A\2 Postal code:06680. Cankaya, Ankara, Turkey
Email: drayse1982@yahoo.com, ayseozdemirkirbas@hotmail.com
Phone: +90 533-646-9213

Case presentation

A 30-year-old primigravida was referred at 21 weeks of gestation with a diagnosis of encephalocele in the fetus. The mother had no complaints, and her past medical history was unremarkable. Neither of the parents had a family history of genetic disorders or structural anomalies. A detailed abdominal 2D ultrasonography (USG) (Voluson E730; GE Healthcare) was performed to verify the presence of the lesion and to identify any associated anomalies. The USG showed a posterior homogeneous cervical cystic mass (20×21 mm; Figure 1), and no other abnormalities were noted; the fetal karyotype was normal. Fetal magnetic resonance imaging (MRI) further demonstrated that a fluid-filled, septated lesion, 24x22x5x20 mm in size, was localized under the skin, compatible with a cervical meningocele in the 22nd week. There was no relationship between intracranial structures (Figure 2). After undergoing prenatal counseling, the parents decided to continue the pregnancy. We monitored the mother and fetus closely; fetal surveillance was con-

ducted using serial ultrasonography and cardiotocography. The pregnancy was uneventful and growth parameters were normal, including head circumference. At 38 weeks of gestation, the mother was admitted to our emergency unit for bleeding and pain, and a live baby boy weighing 3310 g was delivered by emergency caesarean section. The neonate was noted to have a 5x4 cm midline purplish soft tissue mass in the posterior midcervical region with dystrophic skin (Figure 3). A neurological examination performed at birth was unremarkable, and there was no sign of cerebrospinal fluid leakage. A subsequent brain MRI revealed no hydrocephalus or other anomaly. The baby was operated on at ten days of life. A herniation of the meninges, filled with cerebrospinal fluid, was found, with no neural elements inside the herniated sac. The sac was transected and the postoperative period was uneventful. The baby recovered and is doing well.

Figure 1.

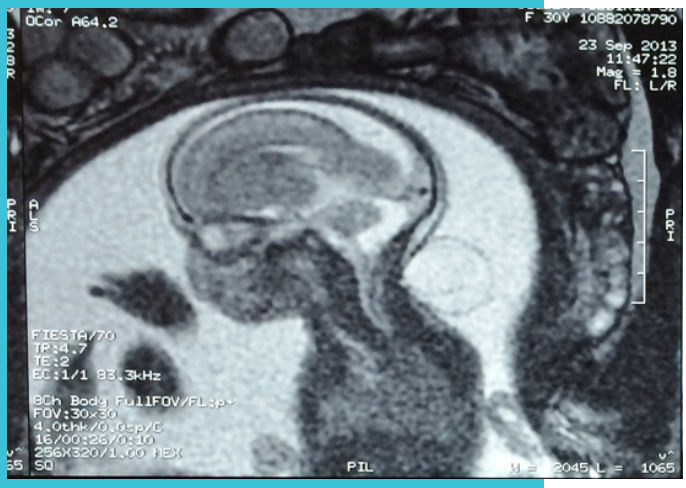


Sagittal ultrasonography demonstrating a cervical meningocele at 21th week.

Discussion

Meningocele is a protrusion of the meninges through a dilated intervertebral foramen or bone defect that usually occurs in the thoracic region. Unlike low thoracic and lumbosacral myelomeningoceles, these malformations are epithelized, and there is usually no neurological impairment [1-3]. Predictors of more favorable outcomes in cases of prenatally diagnosed cervical meningocele include normal karyotype and lack of other associated malformations, including the central nervous system [2,3]. Differential diagnosis should include other masses of the fetal neck, including cystic hygroma, cervical teratoma, and hemangioma [4].

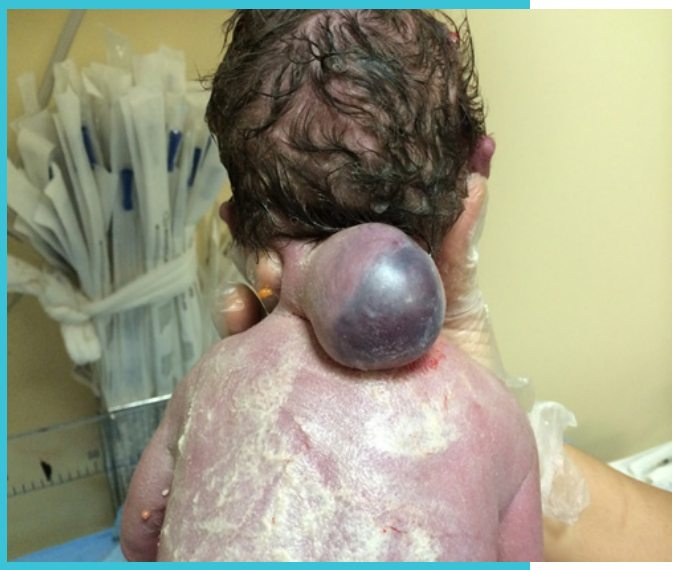
Figure 2.



Fetal MRI is showing a median posterior cervical meningocele at 22th week.

Cystic hygroma, an abnormality of the vascular lymphatic system, that has a predominately cystic, multilocular appearance on sonography without bone defect, is the most common posterior neck mass in foetuses. Cervical teratomas are usually located anteriorly. They are mixed cystic and solid lesions containing color Doppler flow. Hemangiomas are benign lesions formed of proliferative vascular endothelium. They are normally irregularly shaped, low-level echoes and color Doppler showing vascularization may provide the diagnosis. The diagnosis of hemangioma is crucial as it is associated with fetal heart failure and nonimmune hydrops [5]. Fetal MRI is an effective, noninvasive means of assessing the fetal central nervous system anatomy [2,6]. If a cervical meningocele diagnosis is made by USG, fetal chromosomal analysis is recommended. Following prenatal diagnosis, termination of pregnancy may be offered when a herniated fetal brain is observed or amniocentesis shows an abnormal karyotype.

Figure 3.



Cervical meningocele at birth. Purplish appearance of the full thickness skin-covered lesion with a wide, sessile base.

Acknowledgments:
This case report was presented as a poster presentation at the 13th World Congress in Fetal Medicine, June 29−July 3, 2014, Nice, France.

Conflict of Interest
Authors declare no conflict of interest

References

1. Habibi Z, Nejat F, Tajik P, Kazmi SS, Kajbafzadeh AM. Cervical myelomeningocele. Neurosurgery 2006; 58: 1168-75.
2. Andronikou S, Wieselthaler N, Fieggen AG. Cervical spina bifida cystica: MRI differentiation of the subtypes in children. ChildsNervSyst 2006; 22: 379-84.
3. Salomão JF, Cavalheiro S, Matushita H, Leibinger RD, Bellas AR, Vanazzi E, et al. Cystic spinal dysraphism of the cervical and upper thoracic region. Childs Nerv Syst. 2006;22:234-42.
4. Pearce JM, Griffin D, Campbell S. The differential prenatal diagnosis of cystic hygromata and encephalocele by ultrasound examination. J ClinUltrasound 1985;13:317-20.
5. Kaplan MC, Coleman BG, Shaylor SD, Howell LJ, Oliver ER, Horii SC, Adzick NS.Sonographic features of rare posterior fetal neck masses of vascular origin. J Ultrasound Med. 2013;32:873-80.
6. Mangels KJ, Tulipan N, Tsao LY, Alarcon J, Bruner JP. Fetal MRI in the evaluation of intrauterine myelomeningocele. PediatrNeurosurg 2000;32:124-31.