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BRIEF COMMUNICATION

Cyst of the Filum Terminale: Potpourri of 3 Prenatally Diagnosed Cases

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Abstract The filum terminale (FT) is an extension of pia mater, a fibrous band that connects the conus medullaris and the posterior body of the coccyx.Current advanced technology in ultrasonography has enabled visualisation of the FT and small structures like a FT cyst can be diagnosed prenatally. Reports pf these cysts are rare. We report three cases of a FT cyst diagnosed prenatally. The objective of reporting these is to make clinicians aware of the importance of the relevance of this clinical entity.

Keywords Filum terminale · Cyst · Prenatal · Ultrasound · Diagnosis

Case Report

Case 1

A 34 year old second gravida presented at 21 weeks 5 days with a previous history of a child with Arnold Chiari type II malformation. She had an appropriate BMI. Antenatal records were unremarkable except for a subclinical hypothyroidism. No structural abnormality was observed in a detailed anomaly scan. A unilocular cystic structure, 2 × 2 mm in the FT at the level of L2 just above the conus medullaris (Fig. 1) was observed transvaginally. Using 3D static imaging the cyst was again scrutinized in coronal, sagittal and axial sections (Fig. 1a). The cyst was anechoic and without septations or solid components. A detailed neurosonography was carried out on each follow up. The cyst remained unchanged, in three successive follow ups at 26, 32 and 36 weeks of gestational age. A 2.8 kg female baby was born at term by spontaneous vaginal delivery. Follow up with a pediatric neurologist showed normal milestones and an unchanged FT cyst on ultrasonography.

Case 2

The 28 year old primigravidae with an uneventful antenatal record presented for a routine anomaly scan at 21 weeks 2 days. Biochemical markers for aneuploidies were normorange. The scan revealed no major abnormality. There was an anechoic lesion at the level of the 3rd lumbar segment of the spinal cord towards the conus medullaris deep inside the FT (Fig. 2) on a transvaginal scan. This cyst was thin walled, clean and unilocular. Neurosonography did not reveal any associations. Her antenatal period was uneventful and she delivered a 3.2 kg baby at term. The FT cyst could be visualised on ultrasound at the 8th month follow up. Follow up at the neurodevelopmental clinic did not show any abnormality.

Case 3

A 30 year old second gravida was referred for a growth scan at 32 weeks. A FT cyst was observed. The cyst measured 5 mm in length and 2 mm in width (Fig. 3). It stretched from S_4 to S_2 vertebrae. Transvaginal ultrasound confirmed the finding. Associated findings, in this case, were early growth restriction with umbilical varix and

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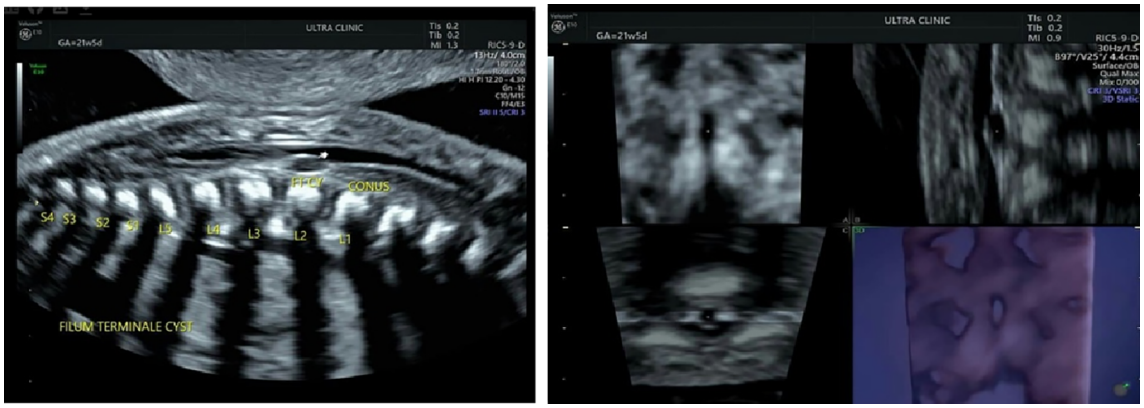

Fig. 1 FT Cyst of case 1

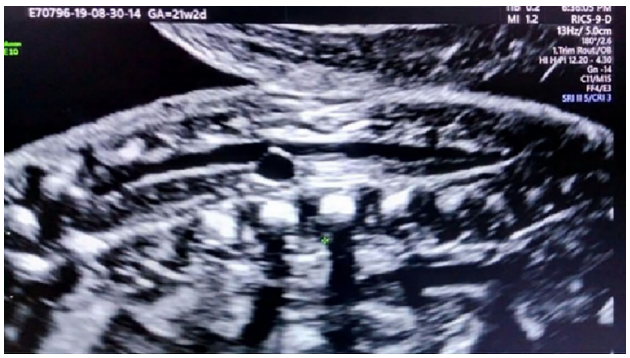

Fig. 2 FT Cyst of case 2

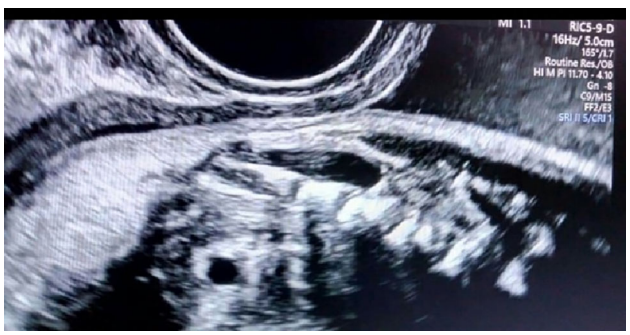

Fig. 3 FT Cyst of case 3

a duplex collecting system in the left kidney. The woman delivered a 1.8 kg baby. Follow up scans showed a FT cyst. There were no neurological findings.

Discussion

A filum terminale cyst is an incidental finding in neonates during lumbar spine sonography. Most cases are reported in neonatal or adult magnetic resonance imaging (MRI) or ultrasound [1]. The finding is seldom reported prenatally. Those that have been, are in third trimester ultrasonography with high resolution transducers [2]. We delineated all three cases with the aid of a transvaginal transducer. Irani et al. [3], had an 11.8% incidence of filar cyst out of 644 infants and it was inversely related to age. Developmental milestones were normal. They concluded that filar cysts are a normal variant. As a tool for further evaluation, they preferred lumbar spinal sonography to MRI. The literature describes the FT cysts as an embryological remnant usually confused with another entity; ventriculus terminalis. Ventriculus terminalis is also a normal variant, a smooth dilatation of the central canal which lies within the conus medullaris. FT cysts are located inferior to the conus medullaris, usually midline and thin walled [3].

Seo et al. [4] retrospectively studied 195 infants with skin stigmata and observed FT cyst in 14.1%, of which 20% had spontaneous regression at 5–12 months and 30% persisted. The cases which progressed were associated with filar lipomas. Their study stated that FT cysts were clinically insignificant.

All three cases did not have any dermal signs and neonatal milestones were normal. This is in consonance with previous reports. Adequate counselling of parents is mandatory to avoid unnecessary anxiety. Important counselling features are: (a) FT cysts are benign, (b) these may regress spontaneously with age and further investigation such as MRI are only needed if FT cysts are not isolated, (c) No tertiary care backup for delivery is necessary. Patients may not need for long term follow up if clinically asymptomatic.

Our reports show that the incidence of prenatal diagnosis of FT cysts may increase if scanned for in all cases, especially by high frequency TVS probes looking at the Conus. Three dimensional applications may be an adjunctive for more definitive diagnosis and location of the cyst. Sometimes lipomas of the FT may also present similarly and cannot always be differentiated from FT cyst unless machine settings are appropriate.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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