

Case Report

Unusual umbilical cord finding in a neonate

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ABSTRACT

Umbilical cord cyst refers to any cystic lesion that are associated with the umbilical cord. They are classified as true cysts or pseudocysts. True cysts are small remnants of the allantois, whereas false cysts originate from liquefaction of Wharton Jelly. In present case, cyst was diagnosed at birth without any associated congenital anomalies and resolved spontaneously within a few days requiring nil surgical intervention. Umbilical cord cysts deserve special attention since 20% of them, regardless of type, are associated with structural or chromosomal anomalies. Because of this, fetal karyotyping and amniocentesis should be considered when cysts persist beyond the first trimester.

Keywords: Allantois remnant, Liquefaction, Pseudocyst, Umbilical cord cyst, Umbilical cyst, Wharton jelly

INTRODUCTION

Umbilical cord cyst refers to any cystic lesion that are associated with the umbilical cord. They are classified as true cysts and pseudocysts. True cysts are small remnants of the allantois, whereas false cysts originate from liquefaction of Wharton Jelly. True cysts have epithelial lining of flat or cuboidal uroepithelium and its size ranges between 4 to 60mm. False cysts lack epithelial lining and its size can be as large as 6cm.

Regardless of the size they are more commonly, associated with hydronephrosis, patent urachus, omphalocele and Meckel diverticulum and Trisomy 18,13. They are irregular in shape, and more commonly located towards the fetal insertion. Because of its associations with structural and chromosomal abnormalities, amniocentesis and karyotyping should be preferred when cysts persist beyond first trimester.¹ In present case, cyst was diagnosed at birth without any associated congenital anomalies and resolved spontaneously within a few days requiring nil surgical intervention.

CASE REPORT

A healthy term male baby was born to a Primi at 38+3 weeks by spontaneous vaginal delivery with a birthweight of 3215 Gms. Baby cried immediately after birth with Apgar score of 8 and 9 at 1st and 5th minute respectively. There was no history of any drug intake or any other chronic illness in the mother. Antenatal Visits were done regularly as well as Ultrasound examination were normal. On Neonatal Physical examination immediately after birth from head to toe there was no facial dysmorphism as well as no other gross congenital abnormalities noted except for a cystic swelling of 6cms at proximal part of the umbilicus i.e., fetal insertion of umbilical cord attached to the baby which was filled with clear fluid without any abdominal contents (Figure 1). The cord was clamped above the swelling to avoid rupture of the cyst (Figure 2). The baby voided and passed meconium with 24 hours of birth. Ultrasound of the Umbilical region didn't demonstrate any abdominal contents except for fluid and also ruled out patent urachus. Ultrasound abdomen and KUB revealed normal study of the internal structures. The neonate was with the

mother for feeding and was observed but eventually the cyst reduced in size day by day, within 72 hours it deflated and became dried appearing as a thick cord stump. A diagnosis of Cord Pseudocyst was made.



Figure 1: Cystic swelling noticed immediately after birth.



Figure 2: Cord clamped above the swelling.

DISCUSSION

Pseudocyst are more common than true cyst. It is rarely possible to differentiate between true and pseudo cysts on ultrasound imaging and it can be done only by histopathology. Ruiz Campo et al, explained about the significance of routine ultrasound pregnancy examination searching for a cord cyst and also to look for any other

associated malformations.² First trimester ultrasound identified approximately 1% of single umbilical cord cysts which usually resolve spontaneously. In contrast cyst persisting in second and third trimester are often associated with increased chances of spontaneous abortion and chromosomal aneuploidies.³

Shipp et al, were the first to present a series of 13 cases of umbilical cord cyst detected during the second and third trimesters.⁴ They reported four cases of clear cysts on the umbilical cord, eight cases with complex masses and one case with complete, cystic encasement of the cord throughout its length. The postnatal outcome included eight normal neonates (including one with omphalitis and chorioamnionitis), one case of trisomy 13, two cases of patent urachus, one case with multiple vascular anomalies (ventricular septal defect, superior vena cava and innominate vein varicosity, and asymmetric venous dilatation of the left side of the body) and one case with a small umbilical hernia and IUGR, in which the cord pathology revealed multiple syncytial knots adjacent to a complex cyst of the cord. Overall, 12 of the 13 newborns survived and the vast majority had a favorable outcome

Zangen et al, in a case series of 10 cases, significant abnormalities were observed in two during a detailed sonogram.⁵ In one case, trisomy 18 was diagnosed, leading to pregnancy termination, and in the other case a neonate with heart defects and a normal karyotype was born. Their results differ from those reported in the literature, in which the association between second- and third-trimester umbilical cord cysts and fetal anomalies ranged from 38 to 100%. These differences can be attributed to a small series of case reports, and a large prospective study is needed at second and third trimester to look for their association with aneuploidy.

Sepulved et al, also pointed out umbilical cord cystic masses even though could be focal degeneration of Wharton's Jelly it can also be strongly associated with chromosomal disorders and structural defects.⁶ There were evidence supporting the later appearance of Pseudocysts even after second trimester scans which explains why these cysts have not been considered as sonographic markers of aneuploid in second trimester.

To conclude umbilical cord cyst, deserve special attention since 20% of them, regardless of type, are associated with structural or chromosomal anomalies. Because of this, fetal karyotyping and amniocentesis should be considered when cysts persist beyond the first trimester.⁷ Cysts that are diagnosed at birth without any associated congenital anomalies generally resolve spontaneously within a few days and require no intervention. So it is the duty of the pediatricians, if any such cysts are noticed even with normal antenatal scans, a detailed postnatal examination should be done along with karyotype to look for any other associated abnormality.

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