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Ultrasound evaluation of a bilobed placenta with 'battledore cord insertion' — a report of an unusual case

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A bilobed placenta (also bipartite placenta), is a variation in placental morphology and refers to a placenta separated into two almost equal-sized lobes. The estimated incidence is approximately 4% of all pregnancies [1]. It is thought to result from localized placental atrophy as a consequence of poor decidualization or vascularization of a part of the uterus (dynamic placentation theory) and may be sonographically visualized as two separate placental discs of nearly equal size [2, 3]. The cord is usually attached to a thin connecting rim of chorionic tissue which bridges the two lobes. Less commonly, the cord may insert into one of the lobes. In such a situation, the cord insertion site is too close to the placental margin (usually defined as < 2 cm, although some references define it as < 1 cm). A marginal cord insertion, also known as a *battledore placenta,* may confer a slight increase in the risk for adverse pregnancy outcomes like placental abruption, placenta previa, preterm labor, fetal distress and intrauterine growth restriction [2–4]. A bilobed placenta with abnormal cord insertion is even less common. This condition may be detected as early as in the first trimester, especially during standard first-trimester screening, as in most centers this test is mandatory. Antenatal ultrasound is considered to have variable sensitivity (approx. 69–100%) but a high specificity (even up to 99–100%) to reveal abnormal placental cord insertion sites. The technique is extremely important and Color Doppler is known as a great aid in the identification. As the condition is associated with an increased incidence of various severe obstetric complications, like those presented above, as well as postpartum hemorrhage due to retained placental tissue [2, 3], a cesarean section is often considered to avoid the risk.

In this clinical vignette we present a rare case of 'battledore cord insertion' in a woman with bilobed placenta.

A 32-year-old secundipara (1 uncomplicated pregnancy, delivered by cesarean section due to the risk of acute fetal asphyxia during labor) woman was referred to our perinatal center at 15 weeks for a detailed ultrasound because of a band-like structure crossing the gestational sac. During the 11^{+0} to 13^{+6} ultrasound exam this band was apparently dividing the sac with an area of fluid laterally and appeared to communicate with the fetus. It was suspected that the fetus is attached to this band-like structure in its neck area (Fig. 1). A transabdominal and transvaginal consulting sonography was performed with the use of new generation high resolution sonographic systems. A 15-week-size fetus was identified with appropriate growth and normal-appearing anatomy. Fetal parts moved freely around the band. A thick chorionic band, which communicated with the placenta, was described. The placenta was visible on the posterior wall of the uterus. Color Doppler showed the blood flow within the band. The patient returned 6 weeks later for additional scanning. Subsequent ultrasound exam revealed two separate almost equal-sized placental lobes on the anterior and posterior uterine wall, with placental cord insertion at the margin of the posterior lobe. Fetal biometry proved consistent with dates at 21-week size. A thorough fetal anatomy survey revealed no structural anomalies. Later during this pregnancy we performed a control ultrasound examination once a month to exclude intrauterine growth restriction, a progress to velamentous cord insertion or vasa previa occurrence. The patient delivered a healthy female neonate at 38 weeks of pregnancy via elective cesarean due to abnormal placenta formation and the increased risk of fetal complications (*e.g.* risk of vascular rupture and fetal hemorrhage during labor). During the post-surgical examination a bilobed placenta with marginal cord insertion and vessels branching over the fetal surface of the placenta was confirmed (Fig. 1).

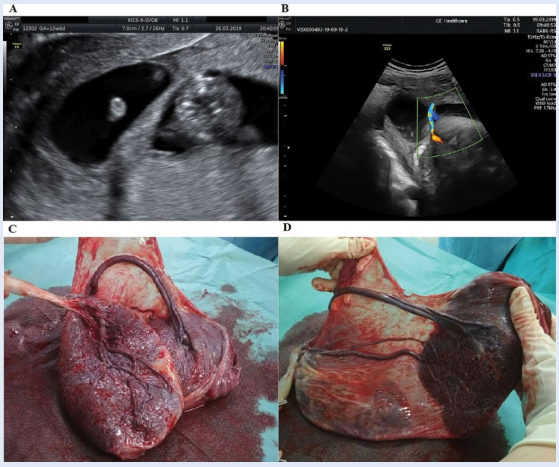

Figure 1. A. 12 weeks of gestation, transvaginal scan,. Anterior and posterior placental lobes with visible band/septum. Fetus on the right (neck area); B. 38 weeks of gestation, transabdominal scan. Anterior and posterior placental lobes with visible vessels in Doppler imaging; C. 38 weeks of gestation, bilobed placenta with atypical cord insertion (large caliber vessels) after cesarean section; D. 38 weeks of gestation, bilobed placenta with atypical cord insertion (large caliber vessels) after cesarean section — different perspective

The placenta plays a crucial role in the maternal-fetal environment throughout the pregnancy. However, it is often overlooked during a routine antenatal imaging evaluation. Seemingly, several features should be particularly noted during scanning. According to Ebbing et al. (2013) [5] the prevalence of velamentous and marginal insertions of the umbilical cord was associated with an increased risk of adverse perinatal outcomes including fetal hemorrhage, especially with velamentous insertion. Furthermore, marginal cord insertion below 0.5 cm from the placental edge may progress to velamentous cord insertion later in pregnancy [3].

To conclude, when a bilobed placenta with the accessory lobe in the lower part of the uterus is visualized via ultrasound scanning, careful ultrasound evaluation for vasa previa and velamentous cord insertion should be performed to reduce the risk of adverse perinatal outcome. In those cases a planned cesarean section should be considered to reduce the risk of fetal hemorrhage during labor.

REFERENCES

1. Fujikura T, Benson RC, Driscoll SG. The bipartite placenta and its clinical features. Am J Obstet Gynecol. 1970; 107(7): 1013–1017, doi: 10.1016/0002-9378(70)90621-6, indexed in Pubmed: 5429965.
2. Baergen RB. Manual of Pathology of the Human Placenta. Springer Verlag, New York 2010.
3. Fadl S, Moshiri M, Fligner CL, et al. Placental Imaging: Normal Appearance with Review of Pathologic Findings. Radiographics. 2017; 37(3): 979–998, doi: 10.1148/rg.2017160155, indexed in Pubmed: 28493802.
4. Kelley BP, Klochko CL, Atkinson S, et al. Sonographic Diagnosis of Velamentous and Marginal Placental Cord Insertion. Ultrasound Q. 2019 [Epub ahead of print], doi: 10.1097/RUQ.0000000000000437, indexed in Pubmed: 30870317.
5. Ebbing C, Kiserud T, Johnsen SL, et al. Prevalence, risk factors and outcomes of velamentous and marginal cord insertions: a population-based study of 634,741 pregnancies. PLoS One. 2013; 8(7): e70380, doi: 10.1371/journal.pone.0070380, indexed in Pubmed: 23936197.

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