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A Case of Successful Pregnancy in a Complete Bicornuate Uterus

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ABSTRACT

Background & aim: Complete bicornuate uterus is a type of Mullerian duct deformity, resulting from abnormal duct fusion. Similar to other Mullerian anomalies, bicornuate uterus is associated with specific complications during possible pregnancies. While various studied have reported successful deliveries in a bicornuate uterus, it might be accompanied with various complications, ranging from preterm labor to more catastrophic outcomes such as uterine rupture.

Case report: One of the current approaches to diagnosis this abnormality is ultrasound monitoring. In the present report, we presented a 25-years-old multiparous women with a history of abortion. The patient was not diagnosed with a complete bicornuate uterus in her first unsuccessful pregnancy. However, she was suspected with a complete bicornuate uterus based on the findings of ultrasound in the present pregnancy. A successful cesarean section was performed on the subject in the 39th week of gestation.

Conclusion: According to the results, successful delivery could be achieved in patients with bicornuate uterous. Considering factors such as recurrent miscarriage, suspicious findings, and unreliable results of ultrasound, other diagnostic evaluations, including magnetic resonance imaging and hysterosalpingography, are recommended.

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Introduction

Uterine anomalies usually result from abnormal development of Mullerian ducts (1). While true prevalence of Mullerian duct anomalies was not well established, ultrasound examinations revealed that approximately one per 250 women reported uterine abnormalities (2). Each of these anomalies is accompanied with a unique complication during pregnancy (3). According to the literature, bicornuate uterus has been identified as a form of abnormal duct fusion.

The incidence of bicornuate uterus is reported to be 10.3% in women, while the incidence rate of pregnancy in rudimentary uterine is one per 40000 pregnancy cases (4, 5). Preterm rupture of membranes in small for gestational age infants and caesarian section (due to malpresentations) are mostly observed in women with Mullerian anomalies (6). However, even women with complete bicornuate uteri can experience successful pregnancies. Therefore, a case of successful pregnancy in a patient with bicornuate uterine was discussed in the current report.

Case report

A 25-year-old multipara woman (gravida: two, abortion: one) with a previous history of complete abortion in the 8th week of gestation (about two years ago) was referred to our gynecology clinic for routine pregnancy follow-up in her 8th week of pregnancy. No uterine abnormality was reported by abdominal ultrasound in the first pregnancy of the subject, and the patient had no abortion workups. However, possible septated uterus with a living fetus and placenta previa in the 8th week of gestation was observed in the second pregnancy of the patient.

The next abdominal ultrasound in the 16th week of pregnancy reported the cervical length at 33 mm and a septated uterus, while the patient was symptom free. In the 33th week of gestation, the cervical length was reduced to 27 mm. Moreover, the patient received weekly progesterone (400 mg, vaginal) for three weeks due to occasional painful contractions.

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In the next abdominal ultrasound exam in the 36th week of pregnancy, the fetus was alive and in a breech position. Therefore, after the last ultrasound in week 39 of gestation, the patient was scheduled for elective cesarean section due to the breech position of the fetus. The patient delivered a healthy boy, weighing 3400 gr with one-minute Apgar score of nine and five-minute Apgar score of 10.

Figure 1. Observation of a complete bicornuate uterus with common cervix during cesarean section

It is worth noting that the patient was diagnosed with a complete bicornuate uterus with a single common cervix (Figure1), and no anomaly was observed in other organs. The placenta and fetus were both located in the right horn of uterus. After the removal of placenta, bleeding was estimated at 1000 cc, and the incision sites were sutured. The patient was stable after the cesarean section and discharged in overall healthy conditions after 48 h.

Discussion

Uterine abnormalities occur as a result of Mullerian or paramesonephric duct anomalies or disturbances at the time of fusion or development (1). One of these abnormalities is identified as bicornuate uterus, caused by abnormal fusion of ducts (1). This condition might be diagnosed before or during pregnancy. According to previous studies, many of these abnormalities might be asymptomatic and may remain undiagnosed until abdominal surgeries, such as hysterectomy (7). In this regard, one of the first diagnostic clues is the occurrence of obstetrical complications.

Nevertheless, it seems that while bicornuate uterus does not lead to reduced fertility, it is particularly associated with adverse pregnancy outcomes, such as aberrant complications (8). Studies have shown that uterine rupture might occur during pregnancy because of a thin wall and inability of malformed uterus to expand as a normal one (9).

Other rare complications, such as failure of contraceptive methods, might also be responsible for this condition. In this regard, Naghibi et al. reported a case of pregnancy in a horn of bicornuate uterus. A history of both vaginal and caesarean delivery without any positive history of miscarriage was reported in the mentioned study. In terms of contraceptive methods, the subject was using intrauterine device (IUD) at the time, which failed since the device and fetus were in different horns of uterus. After the cesarean section, the device was removed and a female neonate at gestational age of 32 weeks (2200 gr) was delivered (10).

Early ultrasound is a contributing method for evaluation of the effects of abnormal uterus on pregnancy (11). Sensitivity of ultrasound in visualizing the rudimentary horn of uterus is 23%, which allows the diagnosis of only 14% of patients before the manifestation of clinical symptoms (12). In the current case report, ultrasound could not identify the first pregnancy. This could be due to the small size of uterine horn or difficulty to provide proper imaging of this condition. However, the patient was accurately diagnosed with rudimentary horn of uterus in her second pregnancy.

A case of pregnancy in one horn of bicornuate uterus was reported in a study by Adeyemi et al. Similar to the present report, the results of ultrasound revealed a bicornuate uterus in the patient. In addition, a history of intrauterine fetal mortality at term was affirmed, which was followed by a cesarean section for delivering a stillborn fetus. After another miscarriage, the patient of the mentioned study successfully gave birth to a healthy boy (weight: 2.8 kg, gestational age: 38 weeks) through a caesarean section (13).

Another effective procedure for evaluation of fallopian tubes and uterus is the invasive hysterosalpingography process, in which patients are exposed to radiation. Given the inability of this procedure to visualize the external uterine contour, non-invasive modalities (e.g., ultrasound)

are prominently used for evaluation of uterine anomalies. Some of the more recent imaging methods, such as 3D transvaginal ultrasound, have been identified as faster procedures, compared to magnetic resonance imaging (MRI). In addition, they have the ability of evaluating the external uterine contour in women (14).

Initially, the objectives of the research were explained to the patient and she was assured of the confidentiality terms. Afterwards, an informed consent was obtained from her prior to study.

Conclusion

According to the findings of the current research, uterine abnormalities are accompanied with uneventful outcomes such as preterm labor, fetal malpresentation, and even perinatal mortality. However, these anomalies may not be suspected before the occurrence of abortion or its complications. In the present report, while the first abortion might have not been caused by uterine abnormalities, the breech position in the second pregnancy possibly resulted from bicornuate uterus. Although women with complete bicornuate uteri might experience successful pregnancy, they are still at the risk of certain complications. Nevertheless, it seems necessary to raise the patients' awareness towards the possible outcomes of this condition by physicians.

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Conflicts of Interest

The authors declare no conflicts of interest.

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