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Case Report Open Access

Full-Term Pregnancy in a Non-communicating Rudimentary Horn: A Case Report

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Abstract

Unicornuate uterus with a rudimentary horn is a rare anomaly of the female genital system resulting from incomplete development of one of the müllerian ducts. It might end in grave obstetrical and gynecological complications in the absence of early diagnosis and proper management. A rare case of a full-term pregnancy in a non-communicating rudimentary horn is presented in this paper. A 24-year-old pregnant woman carrying the preliminary diagnosis of placenta percreta was referred to our clinic by reason of vaginal bleeding at a gestational age of 38 weeks. She underwent emergency cesarean section in our clinic, which led to the finding that her condition was not placenta percreta, but a full-term pregnancy in a non-communicating rudimentary horn. The need for a high index of suspicion as well as the use of ultrasonography plays a key role in the early diagnosis of this rare condition. Rudimentary horn pregnancy must be suspected in patients referred with the preliminary diagnosis of placenta percreta.

Keywords: Rudimentary horn; Full-term pregnancy; Placenta percreta

Introduction

Non-communicating rudimentary horn pregnancy is a very rare condition that usually ends in rupture in the second trimester [1]. It is estimated to occur in one in every 100,000 pregnancies [2]. The estimates of the frequency of müllerian duct anomalies vary from 0.1 to 3.8%. Unicornuate uterus is the most unusual müllerian duct anomaly, representing only 4.4% of the cases. It is believed to result from the failure of one of the müllerian ducts to migrate to its proper location [3,4]. In nearly 90% of the cases, the unicornuate uterus is with a non-communicating rudimentary horn [5]. Rudimentary horns are mostly asymptomatic by reason of their non-communicating and non-functional pattern. American Society for Reproductive Medicine (ASRM) classifies unicornuate uterus into four groups as follows:

1) Unicornuate uterus with a communicating rudimentary horn;

2) Unicornuate uterus with a non-communicating rudimentary horn;

3) Non-cavitated unicornuate uterus with a non-communicating rudimentary horn;

4) Isolated unicornuate uterus [6].

Rudimentary horn pregnancy must be suspected in patients referred with the preliminary diagnosis of placenta percreta. A proper first trimester Ultrasonography (USG) performed by an experienced obstetrician plays an important role in the early and correct diagnosis. The literature contains a large number of reported cases of a rudimentary horn pregnancy whereas it contains only a limited number of reported cases of a rudimentary horn pregnancy reaching full-term without development of any maternal or fetal complications. Therefore, the purpose of this paper is to present a rare case of an uncomplicated full-term pregnancy in a non-communicating rudimentary horn.

Case Report

A 24-year-old pregnant woman, who had been previously diagnosed with placenta previa totalis + placenta percreta + cervical myoma under the guidance of USG, was referred to our clinic by reason of vaginal bleeding (gravida 3, para 2, and living 2). Upon admission to our clinic, she had a history of two cesarean sections. Her blood pressure was 110/70 mmHg, and her pulse rate was 110 beats per minute and rhythmic. Vaginal examination with speculum revealed a single vagina with a single cervix, and a closed bleeding collum. Trans-abdominal USG scan demonstrated normal intra-abdominal structures with no fluid and a fetus in the intrauterine cavity with biometric measurements corresponding to a gestational age of 38 weeks. Obstetrical examination revealed that the fetus was viable, the amniotic membrane was intact, and the amniotic fluid index was normal. Both kidneys were in the proper position. Her laboratory examination exhibited mild anemia and leukocytosis (hemoglobin: 10 g/dL, hematocrit: %31.1, white blood cell: 10000/mm^3, and platelet: 280000 mm^3). Her coagulation, thrombocyte and serum biochemical parameters were all normal. As she exhibited a pre-shock picture and had evidence of abnormal placental invasion and a live fetus in the obstetrical USG examination, she underwent an emergency cesarean section. As a result, a live male fetus of 3710 grams and 50 centimeters with an Apgar score of 8-9 was delivered. The cesarean section revealed that this was a pregnancy in the left uterine horn (Figures 1 and 2), and the mass that had been previously diagnosed as cervical myoma was actually the uterus itself (Figure 3).

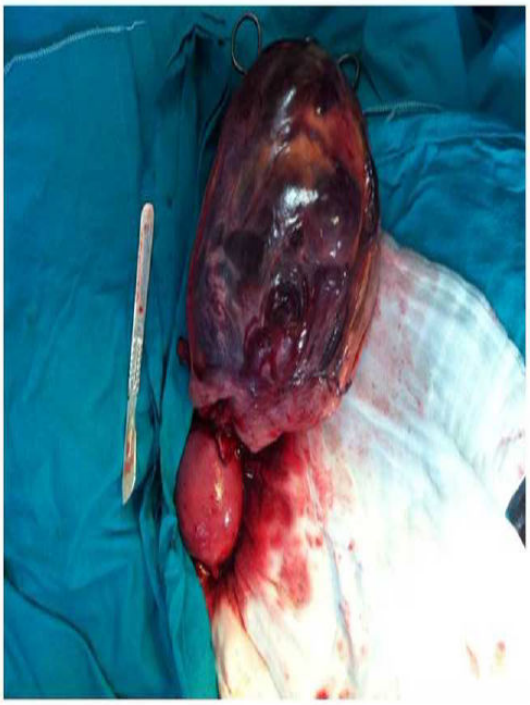

Figure 1: Left rudimentary horn with placenta.

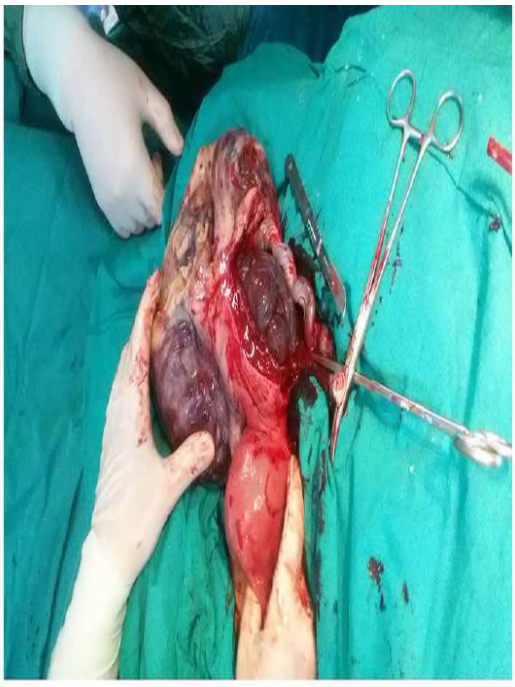

Figure 2: Rudimentary horn after delivery of the fetus.

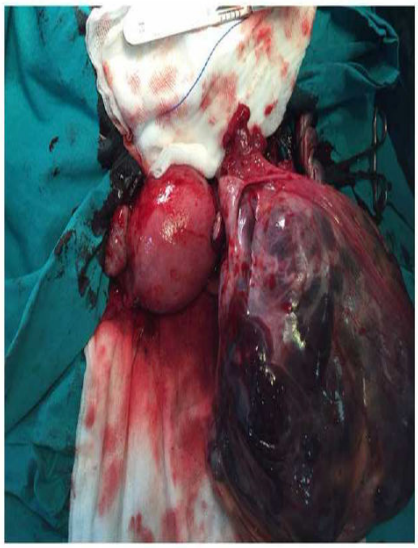

Figure 3: Uterus prenatally misdiagnosed as cervical myoma.

Figure 4: Excised rudimentary horn with placenta.

Scar tissue belonging to a previous cesearean section was seen in the normal uterine cavity. There were no foci of endometriosis in the abdomen. Endometrium was accessed through the vaginal path using Karman cannula, and it was found that there was no communication between the structure in which the fetus developed and the endometrial cavity of the uterus. Then, dilatation and curettage was performed, and the uterine horn was excised (Figure 4). Excision was followed by left salpingectomy. The left ovary was preserved, and the operation was concluded successfully. There was no preoperative or postoperative requirement for blood transfusion. The medical history of the patient was unremarkable with respect to previous pregnancies. There was no history of any pregnancy complications due to the rudimentary horn. The patient also not informed about the existence of rudimentary horn by the surgeon in the previous pregnancy. The

patient, who was asked about her preoperative complaints after the operation, revealed that she had been having dysmenorrhea, dyspareunia, and pelvic pain for long years. The patient had a regular menstrual cycle of 30 days and her menstruation was consistently about 7 days duration. Both the patient and the neonate were discharged on postoperative day 2.

Discussion

The rudimentary horn pregnancy constitutes an emergency as it might end in rupture any time, particularly between 10 and 15 weeks' gestation [7]. There is a case report in the literature presenting a pregnant woman giving birth to a healthy fetus of 2550 grams with a normal Apgar score at 37 weeks' gestation [8]. Our patient also gave birth to a healthy fetus of 3710 grams with an Apgar score of 8-9 at 38 weeks' gestation. The first trimester USG scan increases the patient's chances of getting a correct diagnosis of extra-uterine pregnancy. However, there are a large number of reported cases of a rudimentary horn pregnancy that could not be diagnosed early with the use of USG. Similarly, our patient could not get an early diagnosis with the use of USG although she had visited a number of obstetricians before presenting to our hospital with vaginal bleeding. This situation can be explained by the fact that non-communicating rudimentary horn pregnancy is so rare that obstetricians may fail to recognize it. Absence of visual continuity between the cervical canal and the lumen of the pregnant horn and presence of a thin myometrial tissue surrounding the gestational sac or the amniotic membrane and hypervascularization that is presumed to represent placenta percreta provide strong support for the diagnosis of non-communicating rudimentary horn pregnancy [9].

Common diagnostic modalities employed in search of uterine anomalies include the following: hysterosalpingography, combined laparoscopy and hysteroscopy, USG (most preferably three-dimensional) and MRI. USG is usually the first modality to be used; however, this particular modality has a low sensitivity of 26%, which is even lower in advanced pregnancies [10]. Typical hypervascularization seen in cases of placenta accreta may support the diagnosis. The most frequent misdiagnoses made with the use of USG include ectopic, cornual, intrauterine and abdominal pregnancies. In our patient, the normal uterus had been mistaken for a cervical fibroid in an early USG scan, and the scan had provided inconclusive results in the advanced stage of the pregnancy. After referral to our clinic, we could use no other modality but USG in this patient since the use of other modalities such as hysterosalpingography, laparoscopy and hysteroscopy in search of uterine anomalies is not considered appropriate in pregnancy. MRI could have been an alternative considering its usefulness in diagnosis of uterine anomalies, particularly in advanced pregnancies [11]. However, she had vaginal bleeding, and we had no time for MRI. Low sensitivity of the USG scan might create the need for MRI, which might expedite the surgical intervention, especially in advanced pregnancies [12]. Abnormal placentation and adherence is a frequent occurrence in a rudimentary horn pregnancy because of poor decidualization, insufficiently developed musculature, and small horn size. Oral et al. reported the prevalence of placenta accreta in rudimentary horn pregnancies to be over 10% [13]. Given the thin myometrial tissue and the invasive nature of the placenta, rudimentary horn pregnancies carry a high risk of rupture and bleeding. In our patient, histopathological examination of the excised horn revealed placental invasion into myometrium, which was reported as increta. In approximately 40% of the cases, the rudimentary horn is accompanied by a form of urinary system anomaly, particularly ipsilateral renal agenesis, followed by ipsilateral pelvic kidney [14]. In addition, endometriosis arising from the retrograde flow of menstrual blood from the endometrial tissue contained in the non-communicating rudimentary horn into the peritoneal cavity or enlargement of the rudimentary horn due to obstruction might cause pelvic pain in these cases. No findings were existent in our patient to suggest a urinary system anomaly or endometriosis. However, she had been complaining of dysmenorrhea, dyspareunia and pelvic pain for long years. There are only a limited number of reported cases of a full-term pregnancy in a rudimentary horn, which has the potential to create high perinatal maternal mortality and morbidity risks. Therefore, our case is considered a rare one. In such cases, there may be no complication until the pregnancy becomes full-term. Non-communicating rudimentary horn must be excised once they are detected [15]. Upon admission, our patient had a history of two cesarean sections, none of which had involved rudimentary horn excision.

Conclusion

Rudimentary horn pregnancy must be suspected in patients referred with the preliminary diagnosis of placenta percreta. If the patient is hemodynamically stable, MRI can be used for a correct diagnosis. The rudimentary horn must be excised once the diagnosis is confirmed. In our patient, the pregnancy reached full-term without development of any maternal or prenatal complications.

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