ISSN 2689-8268 | Volume 5

American Journal of Surgery and Clinical Case Reports

Case Report Open Access

Rupture of Pregnant Rudimentary Uterine Horn at 22 Weeks with Previous Cesarean Delivery: A Case Report

Zejko Duic, Sandra Stasenko, Josip Valetic and Zana Zegarac*

Department of Obstetrics and Gynecology, University Hospital Merkur, Zagreb, Croatia

***Corresponding author:**

Zana Zegarac,
Department of Obstetrics and Gynecology,
University Hospital Merkur, Zagreb, Croatia,
E-mail: zanazegarac@yahoo.com;
sandra.stasenko@gmail.com

Received: 19 Jun 2022
Accepted: 30 Jun 2022
Published: 06 Jul 2022
J Short Name: AJSCCR

Citation:

Zana Zegarac. Rupture of Pregnant Rudimentary Uterine Horn at 22 Weeks with Previous Cesarean Delivery: A Case Report. Ame J Surg Clin Case Rep. 2022; 5(2): 1-4

1. Abstract

A uterine anomaly may increase the risk of preterm birth, breech presentation, placenta previa, placental abruption, intrauterine growth retardation and ectopic pregnancy [1]. Unicornuate uterus with rudimentary horn occurs due to failure of complete development of one of the Müllerian ducts and incomplete fusion with the contralateral side. Most patients are asymptomatic, but this rudimentary horn may contain a cavity with endometrium and be the seat of pregnancy implantation. Perruptured diagnosis of pregnancy in rudimentary horn with ultrasonography is a technical difficulty with a sensitivity of 30% [2]. Ultrasound sensitivity remains only 26%; the enlarging horn with the thinned myometrium can obscure the adjacent anatomical structures, and the sensitivity further decreases as the gestation progresses. MRI has proven to be a beneficial diagnostic tool [3]. We report a case of ruptured noncommunicated rudimentary horn at 22 weeks of gestation in women with previous cesarean delivery because of breech presentation in unicornuate uterus, and the rudimentary right horn was not found. Also, in this pregnancy, she had a routine scan in which the diagnosis was missed. In our opinion, routine excision of the rudimentary horn should be undertaken during a nonpregnant state laparoscopically or during the first cesarean delivery.

2. Introduction

Pregnancy in a noncommunicating rudimentary horn appears due to transperitoneal migration of sperm of fertilized ovum. It is extremely rare. The incidence of rudimentary horn pregnancy is estimated between 1/100.000 and 1/140.000 pregnancies. Usually, the pregnancy terminates in rupture during the first or second trimester. Diagnosis of rudimentary horn pregnancy and its rupture is difficult. It requires a high index of suspicion and the achievement of the ultrasound by experienced operators seems essential. It can be missed in a routine ultrasound scan; if missed, detection follows after the rupture in most cases. Our patient was presented in emergency with pain, hematoma and ruptured horn, and the diagnosis was made prior to surgery [4].

3. Case Report

A 27-year-old woman, gravida 2 para 2, came to the emergency with acute generalized abdominal pain during the last few hours. She was 22 weeks pregnant; the previous delivery was by cesarean section for breech presentation. There was no vaginal bleeding, and vital signs were normal. According to her statement, she had a routine obstetric ultrasound examination one week earlier with normal findings. The abdominal examination showed free fluid in the peritoneal cavity and Douglas's pouch. Pulse rate was 80 beats/minute, and systolic blood pressure was 120/80 mmHg. Clinically, the height of the uterus corresponds to the period of amenorrhea. The Ultrasound and MRI Examinations were Done. Ultrasound has shown a bicornuate uterus and a viable fetus in the right horn, intact amniotic membrane, absent myometrial continuity of the right horn, and a clot (44x22 mm) on the anterior wall of the uterus (Figures 1 and 2). MRI has shown a bicornuate uterus with the fetus in the right horn. On the left, the scar of the previous cesarean section was intact. At the wall of the right horn, caudally and laterally, a hematoma of the uterus wall has been observed. The patient was taken to emergency laparotomy with suspicion of a ruptured pregnant right rudimentary horn. On emergency laparotomy, the rudimentary right horn was larger than the main uterus, which was attached by a fibromuscular band to the unicornuate uterus. There was no communication between the rudimentary horn and the main unicornuate uterine cavity. At laparotomy, a rupture of

a unicornuate uterus's right rudimentary noncommunicating horn was found, with the fetus and placenta in situ (Figures 3 and 4). The dead fetus weighed 320 grams. The previous cesarean scar was healthy. The left fallopian tube and ovary were found healthy and were attached normally to the unicornuate uterus. Excision of the right rudimentary horn and right fallopian tube with conservation of the right ovary was done. The patient was resuscitated with intravenous fluids and received two units of blood transfusion (480 ml). She had an uneventful recovery and was discharged on day nine post-operative. The pathological evaluation of the specimen confirmed a uterine horn measuring 10×10,5 cm, coated with decidualized endometrium, noncommunicating type, and a 7 cm long rudimentary horn rupture site.

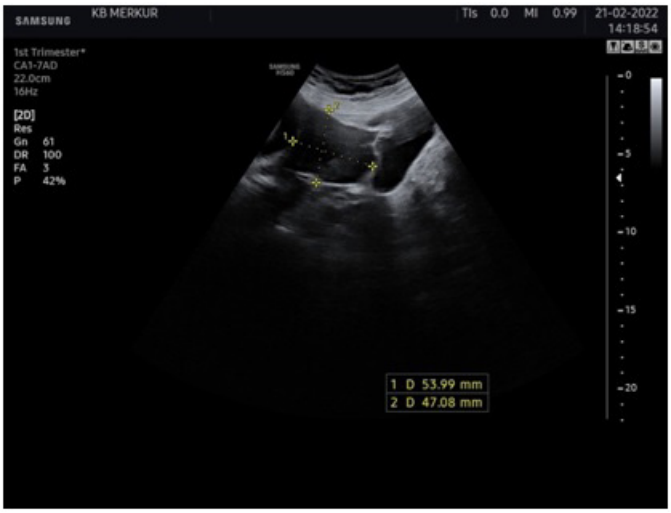

Figure 1: Absent visual continuity between the lumen of the pregnant horn and the presence of myometrial tissue surrounding the gestational sac covered with clots.

Figure 2: The length of the fibromuscular band between the unicornuate uterus and the rudimentary horn.

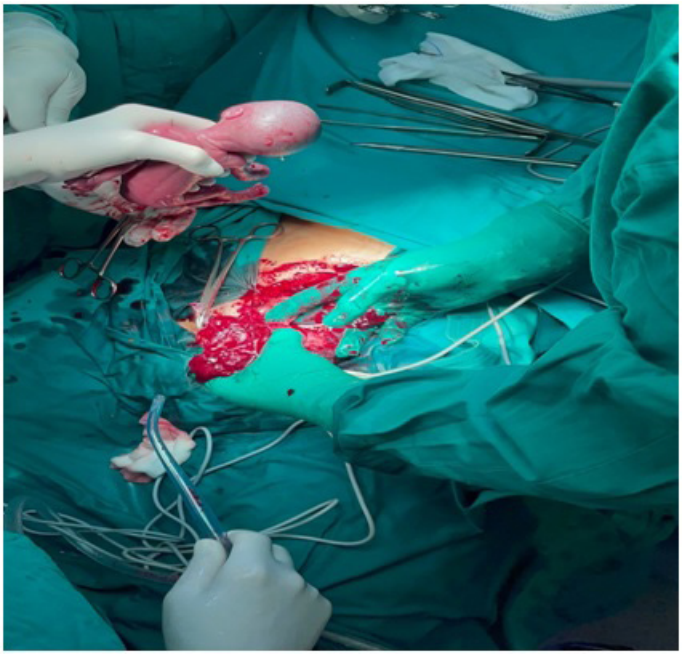

Figure 3: The nonviable fetus and the ruptured rudimentary uterine horn.

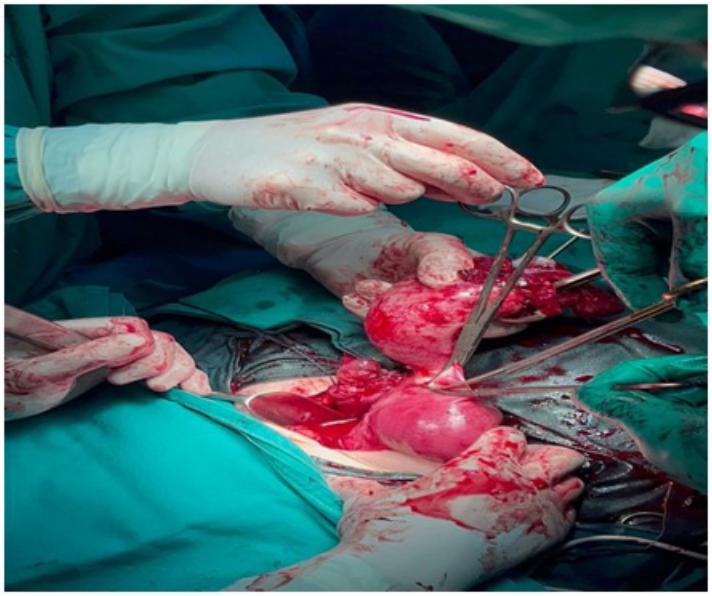

Figure 4: Pregnant rudimentary horn (in the hand of assistance) still attached to the main unicornuate uterus.

Figure 5. Transvaginal Ultrasound image of the uterus four weeks after surgery.

4. Discussion

The unicornuate uterus is further subdivided into four variants according to the criteria from the American Fertility Society [5]. Isolated unicornuate uteruses are the most common type, with a reported frequency of 35%. In the event of rudimentary horn presence, it is a noncavitary type in 33% of cases, cavitary but noncommunicating type in 22% of cases, and cavitary and communicating type in 10% of cases [6]. According to the European Society of Human Reproduction and Embryology (ESHRE) classification, the unicornuate uterus or hemi-uterus is U4 [5]. Class U4 is further divided into two sub-classes depending on the presence or not of a functional rudimentary cavity (Class U4a and Class U4b, respectively). It is reported that, as it was in this case, the rudimentary horn is preferentially situated on the right (62%) because the left Müller's canal progresses more caudally than the right [5,6]. The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate. 70–90% rupture before 20 weeks and can be catastrophic [9]. The subsequent obstetric prognosis is reassuring. After surgical management, diagnostic imaging examinations of the reproductive system showed no adverse effect from surgery on subsequent fertility. There was no reported case of uterine rupture during subsequent pregnancy in the remaining unicornuate uterus after rudimentary horn excision. Urinary tract anomalies are common in women with unicornuate uterus. The need to evaluate the urinary tract in these patients must be stressed. In a literature review, Jayasinghe et al. found renal anomalies in 59 (36%) of 165 cases of the rudimentary horn [8]. We also want to point out that omissions have been made. Despite a risk factor of a suspected uterine anomaly and a previous cesarean delivery for fetal breech presentation, this patient was misdiagnosed on a routine ultrasound anomaly scan one week prior to the catastrophic rupture of the rudimentary horn. The patient's previous operative documentation, which we subsequently reviewed, clearly pointed to the presence of a unicornuate uterus with a noncommunicating rudimentary horn. Also, after the first cesarean delivery, she was not warned regarding potential complications in future pregnancies.

5. Conclusion

The diagnosis and management of the rudimentary uterine horn continue to be challenging. A high degree of alertness must be maintained to prevent the morbidity associated with this condition. In particular, patients with a rudimentary horn with a cavity that communicated with the uterus have a higher chance of being misdiagnosed before 12 gestational weeks and a higher risk of potential complications. When a rudimentary horn pregnancy is diagnosed, the excision of the horn with ipsilateral salpingectomy is the recommended surgical treatment for the best prognosis. After removing the rudimentary horn pregnancy, the patient should be advised of the increased risk of ectopic pregnancy and the increased risk of preterm labor related to the unicornuate uterus. A high index of clinical suspicion for uterine malformations early in gestation and early intervention can reduce the mortality rate. During the previous cesarean section, the malformation of the uterus should have been recognized, with excision surgery of the rudimentary horn done. If the breech presentation is the primary reason for the cesarean section, the suspicion of uterine malformation should be unequivocally dispelled.