

Second Trimester Spontaneous Fundal Rupture of Unscarred Bicornuate Uterus in Primipara: A Case Report and Literature Review; Jigjiga University Sheik Hassen Yabare Comprehensive Specialized Hospital, Jigjiga, Ethiopia

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Background: Primary rupture of an unscarred uterus is rare. Spontaneous rupture of an unscarred bicornuate uterus is a life-threatening obstetric emergency with high morbidity and mortality in the mother and fetus; however, it most commonly occurs in the first trimester of pregnancy.

Case: A 20-year-old primigravid woman at 22 weeks of gestation, with no prior surgery, presented with severe abdominal pain, anemia, and hemodynamic instability. With a preoperative diagnosis of uterine rupture, she was transfused with three units of cross-matched whole blood and underwent emergency laparotomy. Intraoperative findings showed a ruptured bicornuate uterus and a dead fetus in the abdomen with huge hemoperitoneum. Postoperative recovery was smooth, and the patient was discharged after being counselled on family planning and subsequent pregnancy.

Conclusion: A bicornuate uterus may be an independent risk factor for uterine rupture, which can occur in primigravid women at any stage of pregnancy. Each obstetrician should have a high index of suspicion for a rare condition like ruptured bicornuate uterus, especially for a pregnant woman presenting with acute abdominal pain and hemodynamic instability. Early ultrasonography plays a key role in the evaluation, follow-up, and management of these patients.

Keywords: uterine rupture, bicornuate uterus, unscarred

Introduction

A bicornuate uterus is a rare uterine anomaly resulting from incomplete fusion of the two Müllerian ducts in the sixth to seventh week of embryogenesis. The two Müllerian ducts form the uterus, cervix, and upper third of the vagina.^{1,2} Uterine rupture in pregnant women is a life-threatening complication that is associated with obstetric care. It is more common in women who have undergone cesarean section or are multiparous and usually occurs during labor.³ Unscarred uterine rupture is relatively rare in the first and second trimesters of pregnancy and is associated with high mortality and morbidity both in the fetus and mother.^{3,4} The risk factors for unscarred uterine rupture include uterine anomalies, high parity, and placental anomalies.⁵ This case report describes spontaneous unscarred uterine rupture in a woman with a bicornuate uterus in the second trimester of pregnancy.

Case Presentation

A 20-year-old primigravida woman who did not remember her last menstrual period but stated that she had been amenorrheic for the past 6 months was referred to our hospital with a diagnosis of second trimester pregnancy plus

disseminated intravascular coagulation (DIC) plus missed abortion and complained of lower abdominal pain for 1-week duration. Associated with this, she experienced easy fatigability, dizziness, blurred vision, and vertigo of the same duration.

Physical examination revealed blood pressure of 85/50 mmHg, with a pulse rate of 126 beats per minute (bpm). The patient had pale conjunctiva and tender abdomen. Obstetric ultrasound examination revealed a 22-week consistent pregnancy in the peritoneum, negative fetal heartbeat, empty uterus, and free fluid in Douglas and Morrison's pouch. Laboratory results showed a hemoglobin concentration of 4.3 g/dL.

Owing to unstable vital signs, the patient was transfused with three units of screened, cross-matched whole blood. After informed consent was obtained, the patient was rushed to the operating theatre with a preoperative diagnosis of uterine rupture.

Intraoperative findings revealed hemoperitoneum of 2L, 500gm freshly dead male fetus and placenta, respectively (Figure 1). Further inspection revealed a bicornuate uterus and fundal uterine rupture in the left uterine segment (Figure 2). The hemoperitoneum was suctioned, the placenta and fetus were removed, and the uterus was repaired using a size 1 Vicryl suture (Figure 3).

The patient's postoperative recovery was uneventful, and she was discharged on her fifth postoperative day. The patient was counselled on family planning for at least one year, and any future pregnancy would require elective cesarean delivery.

Discussion

A bicornuate uterus is a rare form of uterine anomaly with an incidence rate of 0.4%.⁶ Occasionally, the presence of a bicornuate uterus can be detected during pregnancy or childbirth using ultrasound.^{7,8} Pregnancy in a bicornuate uterus is associated with a poor prognosis both for the mother and fetus.¹ In our case, the mother presented with a near-miss condition and a dead fetus.

Uterine rupture is often associated with previous cesarean section and high parity. Other risk factors include uterine anomalies, obstetric maneuvers, abnormal placentation, malpresentation, curettage, injudicious use of oxytocin, and chronic corticosteroid use.⁹⁻¹² In our case, a bicornuate uterus was identified as a risk factor for uterine rupture.

The classic clinical symptoms of uterine rupture include abdominal pain, vaginal bleeding, and vomiting. These clinical signs in early pregnancy are nonspecific and must be differentiated from acute abdominal conditions, particularly ectopic pregnancy.^{3,11} Other differential diagnoses include luteal bleeding and molar pregnancy with secondary invasion.¹² Early diagnosis and appropriate treatment are essential to reduce the maternal and fetal morbidity and



Figure 1 Shows freshly dead fetus with attached placenta and hemoperitoneum being suctioned.



Figure 2 Shows left coronal fundal rupture.



Figure 3 Shows repaired left coronal uterine fundus with intact right horn.

mortality associated with uterine rupture. In the present case, the patient presented with abdominal pain, signs and symptoms of anemia, and unstable vital signs.

Unscarred uterine rupture usually occurs in the lower part of the uterus, but in bicornuate uterus the thickness of anomalous uterine wall is inconsistent and tends to become abnormally thin as pregnancy advance. Fundal rupture, as in this case, occurs in one of the fundal rudimentary horns because of the inability of the malformed uterus to expand as a normal uterus; this led to accumulation of hemorrhage in the peritoneal cavity.¹³⁻¹⁵ This often leads to delays in diagnosis and treatment.

Immediate surgical intervention is mandatory for the successful treatment of uterine rupture. The type of procedure depends on the extent of the lesion, parity, clinical condition of the patient, and the experience of the obstetrician. Recent studies have shown that the uterus can be repaired, especially in women who want to preserve fertility.^{5,16} The patient should be counselled about family planning and informed that she must undergo an elective cesarean section in future pregnancies. In the present case, uterine repair was performed because the patient was primiparous.

Conclusion

A bicornuate uterus may be an independent risk factor for uterine rupture, which can occur in primigravid women at any stage of pregnancy. Each obstetrician should have a high index of suspicion for a rare condition like ruptured bicornuate uterus, especially for a pregnant woman presenting with acute abdominal pain and hemodynamic instability. Early ultrasonography plays a key role in the evaluation, follow-up, and management of these patients.

Consent and Ethics

Written informed consent was provided by the patient for publication of case details and accompanying images. This case report was approved by the Institutional Review Board (Jigjiga).

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Disclosure

The authors declare no conflicts of interest regarding the publication of this study.

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