

Pregnancy in a Rudimentary Horn with a Live 19-Weeks Fetus: a Case Report

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Case report</p>	<p>Background: A unicornuate uterus with a rudimentary horn is a rare uterine anomaly occurring in 1 out of 100,000 to 140,000 pregnancies. The diagnosis of this complication is conventionally difficult and missed, which may cause uterine rupture leading to hemoperitoneum. The standard treatment is the surgical excision of the horn through laparotomy. The aim of this report was to introduce a case of pregnancy in a rudimentary horn of the uterus.</p> <p>Case report: We present a 31-year old nulliparous woman at 19 weeks of gestation with a live fetus in a rudimentary horn. The first ultrasound showed a bicornuate uterus at 13 weeks. The patient was referred to Mobini Hospital with abdominal and epigastric pain, nausea, and vomiting. Repeated blood tests, ultrasonography, and clinical signs raised the suspicion of a ruptured ectopic pregnancy. The diagnosis of a rudimentary horn pregnancy was made in the operative room. The rudimentary horn with the left tube was excised and the patient was discharged in good condition two days later.</p> <p>Conclusion: This case highlights the importance of following up of patients whose early ultrasound indicates a uterine anomaly. In addition, obstetricians and midwives must have a high level of clinical suspicion and pay careful attention to such complicated cases.</p>
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Introduction

The incidence of the rudimentary horn anomaly is reported to be 1 out of every 250 women (1, 2). This congenital anomaly of the uterus occurs in the embryonic period as a result of the defective fusion of the Müllerian duct (3). The incidence of pregnancy in a rudimentary horn was frequently reported 1 in 100,000 to 140,000 pregnancies (4). Naturally, pregnancy in a rudimentary horn results in a rupture in the first or second trimester with heavy bleeding (3) and even in the third trimester (5). Rolan reported that in 70 rudimentary horn pregnancies, uterine rupture usually occurred before 20 weeks of gestation (6). Moreover, about 10% of cases will go to term (3) or form a lithopedion (7), and less than 5% of the reported cases have been correctly diagnosed preoperatively (8). In cases of the

rudimentary horn with thin myometrium, rupture during pregnancy will occur leading to increased risk of maternal mortality (9).

Müllerian duct anomalies are often asymptomatic in non-pregnant women (10). The use of ultrasonography could help clinicians to diagnose uterine abnormalities in a non-pregnant uterus or in the first weeks of pregnancy which can be confirmed by magnetic resonance imaging (4). However, the diagnosis of a rudimentary horn pregnancy is difficult and usually missed on ultrasonography (5, 11). In addition, ectopic pregnancy misdiagnosis may occur due to the continuity of the endometrium (12). Sanchez-Ferrer presented five cases of rudimentary horn pregnancies with different clinical presentations and erroneous preoperative diagnosis (13). We

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present a primigravida woman with a rudimentary horn pregnancy diagnosed during laparotomy at 19-week gestation. The aim of presenting this study was to report a case of rudimentary horn pregnancy with a live 19-week fetus.

Case report

A 31-year-old pregnant woman, G1, with abdominal and epigastric pain, nausea, and vomiting was referred to Mobini Hospital on March 26, 2018. The patient had no history of chronic diseases or hospitalization. She reported regular menstrual cycles with no history of dysmenorrhea. Her pregnancy had previously

been uneventful. Table 1 presents the vital signs and laboratory test results. Four weeks later, the ultrasonography indicated a 13-week fetus. Ultrasonography also showed that a double uterus from the isthmus to the fundus. Gestational sac with a regular membrane was seen in the left uterine cornu. A marginal placenta previa was detected which was attached to the posterior wall of the uterus. The fetus had a normal heart rate and amniotic fluid (AF) volume. Nuchal translucency (NT) was 1.28 cm and nasal bone was detected in this case. Vertebral column alignment was normal. Extremities and their movements were normal and there was no evidence of deformity.

Table 1. Laboratory test results

	2018, 26, 3	2018, 26, 4	2018, 26, 5	2018, 26, 6	2018, 26, 6
Blood Pressure (mmHg)	110/70		95/50		60/40
Pulse Rate	116		88		134
Temperature (c)	-		38		36.8
White blood cell count (Neutrophil)	13.6 (82%)	10.6 (80%)	11.1(89%)	9.8 (84%)	12.7
Red blood cell count	3.94	3.28	5.59	2.2	2.33
Hemoglobin (mg/dL)	12	10.1	7.8	7.2	6.9
Hematocrit (%)	34.9%	30%	22.8%	19.5%	20.4%
Platelet count	171000	226000	248000	174000	209000
Blood sugar (mg/dL)	-	-	106	79	-
SGOT* (IU/L)	-	-	15	14	-
SGPT** (IU/L)	-	-	8	5	-
ALP*** (IU/L)	-	-	132	153	-
Direct Bilirubin	-	-	0.9	0.3	-
Indirect Bilirubin	-	-	0.2	0.6	-

^a8 am, ^bbefore the operation, *Serum glutamic oxaloacetic transaminase, **Serum glutamic pyruvic transaminase,

*** Alkaline phosphatase

Abnormal results are bolded.

Four weeks later, the ultrasonography reported a small amount of free fluid in the perihepatic and prisplenic regions and interlope of the right lower quadrant with no evidence of appendicitis. Moreover, a live fetus was reported with an anterior placenta and gestational age of 19 weeks with normal AF volume. A spherical echogenic band over a heterogeneous mass with 56×51 in diameter was found which might be a clot. The patient was hospitalized in the internal medicine ward of the hospital in a good condition with stable vital signs. Abdominal and epigastric tenderness was observed on the physical examination. No vaginal bleeding and anorexia were found in this case. Urinalysis indicated white blood cells and epithelial cell within the

range of 18-20 and 10-12, respectively, and the bacteria was also found moderate. Table 1 summarizes the collected laboratory tests results. According to the results, a 2-mg drop was observed in the hemoglobin (Hb) level. A consultation with a surgeon was requested due to the abdominal pain and tenderness, the presence of fluid in the abdomen, and ambiguous ultrasonography results. The surgeon rejected an acute abdomen. Gastrointestinal problems were considered, pethidine and ranitidine were prescribed, and the patient was to be discharged the next day. However, the next day, she reported abdominal pain and weakness; therefore, the discharge from hospital was canceled. The patient insisted on discharge with her own consent. In the afternoon, the patient referred to



Figure1. The rudimentary horn attached to the uterus

Vaseei Hospital with severe abdominal pain. Ultrasonography was performed and the result was the same as the previous scan. Mother's abdominal organs were normal with no evidence of appendicitis. A small amount of fluid was found in the perihepatic and prisplicenic regions and interlope of the right lower quadrant. A mass isoechoic to the myometrium with a hypoechoic center and a relatively hyperechoic line (55×59) was seen which was suggestive of hematoma. Loops of intestine were more echogenic than normal and a 19-week fetus was detected with normal AF and partial placenta previa. The patient was referred to Emdad Hospital and laboratory tests and ultrasonography were performed again. At this time, Hb was significantly low and sonography showed an abdominal pregnancy with a gestational age of 20 weeks. About 1500 cc of free fluid was detected in the pelvis, right subphrenic, and splenic spaces. The patient received two units of packed red blood cells. A consultation with a gynecologist was ordered. The patient was transferred to the operating room in Mobini Hospital. Before the surgery, she was in a pre-shock condition. The surgery was performed and the diagnosis was changed to a rudimentary horn pregnancy. About 2 liters of blood and several clots were suctioned. A 19-week fetus was found in the rudimentary horn.



Figure2. The rudimentary horn and a loop of intestine

The rudimentary horn with a developing hole was non-communicating with the uterus. The horn, the left tube, and the products of conception in the horn were removed. The uterus was saved and hemostasis was stabilized. The patient received two units of packed red blood cells and fresh frozen plasma. She was discharged in a good condition two days later.

The patient underwent a laparotomy. The fetus was in a rudimentary horn on the left side with the normal ovary and fallopian tube attached to it. The horn was connected to the uterus in the midpoint of the fundus to cervix distance. A fresh dead male fetus weighing 550 g was delivered through an incision over the pregnant horn. Subsequently, the horn and the left fallopian tube were excised. We obtained written informed consent from the patient and her husband for the publication of this report and photographs.



Figure3. The dead fetus and the placenta

Discussion

Unicornuate uterus often has a rudimentary horn that does not communicate with the uterine cavity. It is estimated that in 90% of the unicornuate uterus with rudimentary horns, there is no communication between the horn and the uterus (3). Unlike the didelphys uterus, the clinical and ultrasonographic diagnosis of pregnancy in a rudimentary horn is difficult because the cervix is normal and there is no sign indicating any congenital uterine abnormality (9).

In this case, despite the earlier ultrasound, the diagnosis was missed probably due to the advanced gestational age, lack of clinical suspicion, supervision of the different specialist, and a weak follow-up. Only when the patient was agitated and laboratory test results showed the probability of internal hemorrhage, laparotomy was performed and helped the diagnosis. In line with our case report in which the diagnosis process was difficult, several cases were reported indicating difficulty in diagnosis (5, 11) or having different presentations (13). Ngichabe reported a 24-year-old primigravida presented with severe abdominal pain and an unstable hemodynamic at 35 weeks. With a priori diagnosis of abruptio placentae, an emergency laparotomy was done and a bicornuate uterus was found with a placenta percreta (12). Although the majority of reported cases are diagnosed after the occurrence of rupture (14), one case was reported with an intact rudimentary horn with a 32-weeks fetus (15). Moreover, three cases were presented with term pregnancies in a rudimentary uterine horn (16-18). Duration of the pregnancy depends on the muscular thickness of the rudimentary horn and its ability to hypertrophy and expansion (9).

The presented case in this study is a rare one suffered from unruptured rudimentary horn pregnancy with a developing hole. Her pregnancy was misdiagnosed as a pregnancy in a bicornuate uterus and a placenta previa in the routine ultrasound scan. One month later, her symptoms were considered as gastrointestinal problems and finally, before the surgery, her pregnancy was misdiagnosed as an abdominal pregnancy. Four days before the surgery, she was symptomatic. After 4 days wandering between hospitals, the symptoms became intensified, and finally, the diagnosis was

disclosed in the operating room. This case report suffers from some limitations since the laboratory test results and ultrasound scans were performed in different settings with different specialists making the results less comparable.

Conclusion

This case report highlights the importance of following up with patients whose early ultrasound indicates a uterine anomaly. In addition, physicians must have a high level of clinical suspicion and pay careful attention to such complicated cases.

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Conflicts of Interest

Authors declared no conflicts of interest.

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