

# Spontaneous Uterine Rupture in Primigravida Secondary to a Term Ruptured Rudimentary Horn Pregnancy: A Case Report

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## Abstract

Pregnancies occupying the rudimentary horns of anomalous uteri are uncommon forms of ectopic gestation and occur in 1 in 76,000 pregnancies. It occurs through the trans-peritoneal migration of the spermatozoon or the trans-peritoneal migration of the fertilized ovum. 70–90% rupture before 20 weeks and can be catastrophic. It is very rare to reach a full term for a rudimentary horn pregnancy, though some literature shows 10% pregnancy reaches full term and fetal survival rate was 2%. Despite advances in ultrasound and other diagnostic modalities, prenatal diagnosis remains elusive, with confirmatory diagnosis being laparotomy. The diagnosis can be missed in ultrasound especially in inexperienced hands. Here we report a full term rudimentary horn pregnancy in 20 years primigravida lady which was retained for about a month after rupture and presented with peritonitis and anemia. The patient was managed with emergency laparotomy and the ruptured and infected rudimentary horn excised with its tube and ovary. The woman survived and discharged in a good condition. There is a need for an increased awareness of this condition especially in developing countries among health professionals. Especially in a spontaneous uterine rupture in primigravida as in our case rudimentary horn pregnancy should be suspected.

**Keywords:** Rudimentary horn; Full-term pregnancy; Spontaneous uterine rupture**Received:** January 18, 2019; **Accepted:** February 27, 2019; **Published:** March 11, 2019

## Introduction

The incidence of congenital uterine anomalies is difficult to determine since many women with such anomalies are not diagnosed. The reported population prevalence of Müllerian anomalies ranges from 0.4 to 5 percent [1]. The unicornuate uterus is an example of an asymmetric lateral fusion defect. A review of pregnancy outcomes in unicornuate uteri reported that, although unicornuate uteri occurs in 1:4020 women in the general population, it is more common in infertile women [2]. This müllerian anomaly carries significant obstetrical risks, including first- and second-trimester miscarriage, mal-presentation, fetal-growth restriction, fetal demise, prematurely ruptured membranes, and preterm delivery [1]. Rudimentary horns also increase the risk of an ectopic pregnancy within the remnant, which may be disastrous. This risk includes non-communicating cavitary rudiments because of trans-peritoneal sperm migration [3] reviewed the literature from 1900 to 1999 and identified 588 rudimentary horn pregnancies. Half had uterine rupture, and 80 percent did so before the third trimester. Of the total 588,

neonatal survival was only 6 percent [4]. Imaging allows an earlier diagnosis of rudimentary horn pregnancy so that it can be treated either medically or surgically before rupture [5].

Although, uterine rupture is very common in our country due to obstructed labor, a case of spontaneous uterine rupture in primiparous women is not reported. In resource poor health care setups like ours with scarce diagnostic facility and with less experienced health professionals the diagnosis of rudimentary horn pregnancy prior to rupture is difficult. Here we report a full term rudimentary horn pregnancy in 20 years primigravida lady which was retained for about a month after rupture and presented with peritonitis and anemia.

## Case Report

A 20 years old primigravida lady who does not remember her last normal menstrual period but claims to be amenorrhic for the last 10 months presented to Geressie Primary Hospital, which is found in the rural parts of Southern Ethiopia, with a chief complaint of fever, chills and rigors of 3 days duration. The lady was illiterate

and married to a farmer with a low monthly income for the last 2 years. Her menstrual history was normal. She has 3 ANC visits at a nearby health post which is run by a health extension worker but she didn't receive iron supplementation or TT vaccination. Her pregnancy was uneventful until she started to fill lower abdominal pain a month back on her 9<sup>th</sup> month of pregnancy. The pain was gradually increasing and it was associated with cessation of fetal movement. For this complaint she visited a nearby health center twice but they reassured her and give her PO anti-pains. Finally, during the last 3 days she developed generalized abdominal pain, fever, chills and rigors. Then, she was referred to our hospital with a diagnosis of sever malaria and intra-uterine fetal death.

On presentation she was acutely seek looking with blood pressure of 80/55, pulse rate of 110, and temperature of 39 degree Celsius. Her conjunctivas were pale with dry tongue and buccal mucosa. On abdominal examination there was a term size uterus with negative FHB. The abdomen was tender all over with palpable irregularity of the uterus at the fundus. On Per vaginal examination the cervix was closed; she had no vaginal bleeding and passage of liquor. Sonographic examination revealed a singleton intrauterine pregnancy with a negative FHB but the fetal extremity appear out of the endometrial cavity and the placenta was located in the lower uterus below the fetal head. There was large collection of anechoic fluid between the placenta and the cervical-os which was considered as a retro placental clot at the time.

With the diagnosis of placenta Previa totals and suspected uterine rupture, after she was resuscitated and broad spectrum antibiotics was started, she was taken to OR for an emergency laparotomy. The intra-op findings were; there was a unicornuate uterus with a rudimentary horn on the left side which was ruptured at the fundus and it was non-communicating. There was also a non-gravid uterus on the right side which is continuous with the cervix and has a normal fallopian tube and ovary. The rupture was about 10 cm in length with irregular and fragile edges and it formed a dense adhesion with the omentum. The placenta which has no attachment and the fetus were in the uterine cavity (rudimentary horn) except the fetal extremities. A 1.7 kg macerated fetus and the placenta were removed and a foul smelling brownish fluid was also sucked out. The omental adhesion released and the ruptured rudimentary horn excised with left salpingo-oophorectomy. After peritoneum lavage was done with saline and abdomen closed, patient left OR with a stable vital sign.

Post operatively the patient was transfused with 2 units of whole blood. The post-operative period was uneventful and she was discharged on her 10th post-operative day with good condition after counseling and family planning was provided.

## Discussion

Pregnancies occupying the rudimentary horns of anomalous uteri are uncommon forms of ectopic gestation and occur in 1 in 76,000 pregnancies [6]. Pregnancy in a non-communicating rudimentary horn occurs through the trans-peritoneal migration of the spermatozoon or the trans-peritoneal migration of the fertilized ovum [7]. 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 [8]. It is very rare to reach a full term for a rudimentary horn pregnancy, though some literature shows 10% pregnancy reaches full term and fetal survival rate was 2% [9]. In our case the pregnancy reaches full term and even the woman claims to be ten months amenorrhic (post term pregnancy). She starts to fill abdominal pain and she was bed ridden for the last one month before presentation. There was a marked improvement in the antenatal diagnosis of rudimentary uterine horn pregnancies during the 20th century as well as in the rate of neonatal and maternal survival [4]. Rupture of the horn is still common but no case of maternal death has been published since 1960 [4]. Early diagnosis of the condition is essential and can be challenging. Ultrasound, hysterosalpingogram, hysteroscopy, laparoscopy, and MRI are diagnostic tools [10]. Ultrasonography 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 [11]. The diagnosis can be missed in inexperienced hands as in our case. Tubal pregnancy, corneal pregnancy, intrauterine pregnancy, and abdominal pregnancy are common sonographic misdiagnosis [12]. Suggested the following criteria for early sonographic diagnosis of rudimentary horn pregnancy, pseudo pattern of an asymmetrical bicornuate uterus, absent visual continuity between the cervical canal and the lumen of the pregnant horn, and the presence of myometrial tissue surrounding the gestational sac [13]. In rural Ethiopia most of pregnant women has no access for quality antenatal care. The woman in this case has three visits to a Health Post and two visits to a Health Center for antenatal care but these facilities have no diagnostic modalities and they are staffed by less experienced professionals. Even in primary hospitals like ours which are staffed by Emergency Surgical Officers and General practitioners with limited ultrasound training, the diagnosis of such rare obstetric condition is difficult.

Immediate surgery is recommended by most after the diagnosis even in un-ruptured cases [11]. The traditional treatment of rudimentary horn pregnancy (RHP) is laparotomy and surgical excision of the pregnant horn to prevent rupture and recurrent RHP. Recently several cases of RHP were treated by laparoscopy using various techniques [14]. Medical management with methotrexate and its resection by laparoscopy is also reported. Edelman et al. showed a case detected at an early gestational week and treated successfully with methotrexate administration. In our case we did an emergency laparotomy and excised the ruptured and infected horn with its tube and ovary.

## Conclusion

Rudimentary horn pregnancy in most cases is associated with a severe catastrophe. These are often incidentally diagnosed. Despite advances in ultrasound and other diagnostic modalities, prenatal diagnosis remains elusive, with confirmatory diagnosis being laparotomy. The diagnosis can be missed in ultrasound especially in inexperienced hands. The quality of ANC follow-up in health centers and health posts should be improved and the detection of complications and early referral should be strengthening. There is a need for an increased awareness of

this condition especially in developing countries among health professionals. Especially in a spontaneous uterine rupture in primigravida as in our case rudimentary horn pregnancy should be suspected. Basic ultrasound training should be provided for emergency surgical officers and general practitioners and primary hospitals should be equipped with adequate laboratory and

diagnostic modalities. Timely resuscitation, surgery, and blood transfusion are needed to save the patient.

## Informed Consent

The patient provided her informed consent for the publication of this case report. It is also approved by the discipline committee of the hospital.

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