

## RUPTURED RUDIMENTARY HORN PREGNANCY OF UNICORNUATE UTERUS AT HIWOT FANA SPECIALIZED HOSPITAL, HARAR, ETHIOPIA: A CASE REPORT.

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### ABSTRACT

Unicornuate uterus with rudimentary horn occurs due to failure of complete development of one of the mullerian ducts and incomplete fusion with the contra lateral side. Pregnancy in the non-communicating rudimentary horn is extremely rare and usually terminates in rupture during first or second trimester of pregnancy. Pregnancy occurs via trans peritoneal migration of sperm or zygote. Variable thicknesses of rudimentary horn musculature, poor dispensability of myometrium lead to rupture. This complication is usually seen in 2nd trimester resulting in shock and hemoperitoneum. Diagnosis of rudimentary horn pregnancy is difficult and can be missed in ultrasound. We report a case of ruptured rudimentary horn pregnancy at 17 weeks of gestation.

**KEYWORDS:** Rudimentary horn, Unicornuate uterus, Hemoperitoneum, Rupture.

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## INTRODUCTION

Unicornate uterus is type 2 mullerian anomaly according to classification by the American Society of Reproductive Medicine with unilateral hypoplasia or agenesis that can be further sub classified into communicating, non-communicating, no cavity, and no horn<sup>1</sup>. The incidence of uterine congenital anomalies because of mullerian defects in the normal fertile population is 3.2%. A unicornuate uterus accounts for 2.4%-13% of all mullerian anomalies<sup>2</sup>. Around 72-85% of the rudimentary horns are non-communicating with the cavity<sup>3</sup>. Unicornuate uterus with rudimentary horn may be associated with gynecological and obstetric complications like infertility, endometriosis, hematometra, urinary tract anomalies, abortions, and preterm deliveries. Rupture during pregnancy is the most dreaded complication which can be life threatening to the mother. We report a case of ruptured rudimentary horn pregnancy of 17 weeks' gestation which was misdiagnosed initial as missed intrauterine pregnancy by ultrasound and treated by misoprostol to evacuate.

## CASE REPORT

A 20-year-old primigravida with amenorrhea of five months was referred from Health Center with complaint of abdominal pain for one day which gradually increased in intensity, was more in the lower abdomen and associated with vomiting. She was married for 1 year and her menstrual cycles were regular. At our hospital patient was first seen at emergency unit and on initial evaluation the patient has stable vital sign and pink conjunctiva. Abdomen is soft, moves with respiration and there is no organomegally. Per speculum examination showed no vaginal bleeding; on per vaginal examination cervix

is closed, uterus is 10 weeks sized and there was no cervical motion tenderness. After ultrasound report by radiologist as intrauterine pregnancy with negative cardiac activity patient was transferred to gynecology ward with diagnosis of missed abortion. At gynecology ward the patient was started on misoprostol for termination of pregnancy and took about ten 200 mg of misoprostol in two days after which she developed syncopal attack. On examination she is found to be hypotensive and her pulse is not palpable. On abdominal examination there is diffuse tenderness with guarding. Bilateral IV crystalloids infusion started and blood sent for cross match. Repeat ultrasound was done and shows significant hemoperitoneum and fetus in the peritoneal cavity, uterus seen separately measuring 8x7x5. So, laparotomy was planned anticipating intra-abdominal pregnancy with hemoperitoneum. On laparotomy there was hemoperitoneum. There was ruptured non-communicating horn of uterus on the right side of the uterus with dead fetus in the peritoneal cavity attached cord and placenta to ruptured horn (Figure 1). Right fallopian tube and ovary were attached to the non-communicating horn and left fallopian tube & ovary were healthy & attached to the uterus (Figure 2, 3). Then the non-communicating horn containing the fetus of approximately 18 weeks and placenta along with right tube were resected out using scissor (Figure 4, 5). Right ovary, left tube & ovary left in situ. The resected margin of uterus was repaired in two layers by vicryl 0 and hemostasis secured. She was transfused with four units of blood and here recovery was uneventful. She was discharged on 5th post-operative day. Histopathology of resected margin was reported as necrotic myometrium with attached membrane tissue.



Figure 1: Fetus and placenta attached to Ruptured uterus.



Figure 2: Ruptured unicornuate uterus with right tube.



Figure 3: Ruptured unicornuate uterus with right side tube and ovary



Figure 4: Resected unicornuate uterus with right tube and attached placenta.



Figure 5: 18 week's dead fetus.

## DISCUSSION

The incidence of unicornate uterus with rudimentary horn is estimated at 1 per 100000 to 140000 pregnancies<sup>2</sup>. Cases of late and false diagnosis leading to uterine rupture have been reported.

The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and its ability to hypertrophy and dilate. Around 70-90% ruptures before 20 weeks and can be catastrophic<sup>4</sup>. As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn pregnancy rupture<sup>5</sup>. Our case presented at 17 weeks in shock which was considered as septic shock initially.

Early diagnosis of the condition is essential and can be challenging. Ultrasound, hysterosalpingogram, hysteroscopy, laparoscopy, and MRI are diagnostic tools<sup>6</sup>. Fedele et al. have found ultrasonography to be useful in the diagnosis<sup>7</sup>. But the sensitivity of ultrasound is only 26% and sensitivity decreases as the pregnancy advances<sup>8</sup>. Tubal pregnancy, cornual pregnancy, intrauterine pregnancy, and abdominal pregnancy are common sonographic misdiagnosis. In our cases ultrasound was done twice; the first was reported as missed intrauterine pregnancy and second was reported as abdominal pregnancy with intra-abdominal bleeding. Tsafirir et al. reported 2 cases of rudimentary horn pregnancy found in the first trimester by sonography and confirmed by MRI. They outlined a set of criteria for diagnosing pregnancy in the rudimentary horn<sup>9</sup> they are 1 a pseudo pattern of asymmetrical bicornuate uterus; 2 absent visual continuity tissue surrounding the gestation sac and the uterine cervix; 3 presence of myometrium tissue surrounding the gestational sac. Nonetheless, most of the cases remain undiagnosed until it ruptures and present as emergency. Use of labor induction agents for termination of pregnancy in a rudimentary horn is unsuccessful and can lead to rupture of the horn as in our case. Non-responders to induced abortion should be investigated with a high index of suspicion. Buntungu et al. reported a rudimentary horn pregnancy in a 6th gravida with all previous normal deliveries with a diagnosis of intrauterine fetal demise in this pregnancy where induction with misoprostol failed leading to the suspicion of ectopic pregnancy<sup>10</sup>.

Primary strategy of management of rudimentary horn is surgical removal. Immediate surgery is recommended by most after the diagnosis even in unruptured cases. Removal of the horn prior to pregnancy in order to prevent complications is also advised. However, conservative management, until viability is achieved, has been advocated in few selected cases if emergency surgery can be performed anytime and if the patient is well informed. A case of pregnancy progressing to the third trimester and resulting in live birth after caesarean section has been documented<sup>11</sup>.

## CONCLUSION

Prenatal diagnosis of rudimentary horn pregnancy remains elusive. The diagnosis can be missed with ultrasound. Precious time may be lost due to delay in diagnosis or misdiagnosis and the general condition of the patient may worsen. There is a need for high index of suspicion for detection before rupture or early in pregnancy especially in patients with failed labor induction. Timely resuscitation, surgery, and blood transfusion are needed to save the patient.

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