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# Ruptured Rudimentary Horn Pregnancy at 18 Weeks with Previous Vaginal Deliveries: 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 contralateral side. Pregnancy in a non-communicating rudimentary horn is extremely rare and usually terminates in rupture during first or second trimester of pregnancy. Diagnosis of rudimentary horn pregnancy and its rupture in a woman with prior vaginal delivery is difficult. It can be missed in routine ultrasound scan and in majority of cases it is detected after rupture. It requires a high index of suspicion. We report a case of G3P2L2 with ruptured left rudimentary horn pregnancy at 18 weeks of gestation which was misdiagnosed as abdominal pregnancy with fetal demise by ultrasound. The patient was referred to our hospital as a case of abdominal pregnancy with fetal demise. Laparotomy revealed rupture of left rudimentary horn with massive hemoperitoneum. Timely laparotomy, excision of the horn, and blood transfusion saved the patient.
**Keywords:** Unicornuate uterus, rudimentary horn, Laparotomy.

## INTRODUCTION

Pregnancy in a rudimentary horn of a unicornuate uterus is rare [1]. An incidence of 1 in 76,000 - 150,000 pregnancies is reported in the literature [2, 3]. Mullerian anomalies were first classified in 1979 by Buttram and Gibbons and further revised by the American Society of Reproductive Medicine in 1988. Unicornuate uterus is a type 2 classification of Mullerian classification with unilateral hypoplasia or agenesis that can be further sub classified into communicating, non-communicating, no cavity, and no horn [4]. 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.

## CASE REPORT

A 24-year-old G3P2L2 woman with 18 weeks of gestation was referred to our hospital from a peripheral health center as a case of abdominal pregnancy with fetal demise. The lady had two previous uneventful vaginal deliveries. Her last delivery was 1 year back. Patient had no regular antenatal check-ups. She went for an ultrasound examination at 18 weeks of gestation due to pain abdomen and slight bleeding per vaginum since 15 days. The ultrasound examination done at the peripheral centre showed a dead fetus of 12 weeks 5 days lying in the abdominal cavity. In view of these features the patient was referred to our hospital. On examination, the woman was pale. Her pulse was 118 beats per minute and of low volume. The blood pressure was 100/50 mmHg. The abdomen was tense, distended with guarding and rigidity. Pelvic examination revealed fullness in the left fornix with cervical movement tenderness. Uterus was felt separate of about 8-10weeks size. There was no vaginal bleeding. Immediate blood transfusion was commenced, urgent ultrasound scan was requested and laparotomy planned. Her ultrasound scan showed single fetus lying outside the uterus. Cardiac activity was absent. The FL was 14.1mm corresponding to a gestational age of 14 weeks. Skull bones were seen overlapping each other (Spalding sign). Patient was taken for immediate laparotomy.

At laparotomy, there was a 6-7cm rupture on the inferior margin of the left rudimentary non-communicating horn of a unicornuate uterus with the fetus lying free in the peritoneal cavity with a hemoperitoneum of about 1.5 litres. The fetus weighed about 600 grams. The cavity of the horn did not communicate with the uterine cavity. The uterus was of normal size with the right fallopian tube and right ovary attached to it. Excision of the rudimentary horn and the left fallopian tube and ovary was done. After achieving hemostasis, abdomen was closed in layers after keeping a drain. She was transfused with 1 unit of packed red blood cells intraoperatively. Her post operative recovery was normal. She was later investigated for

urinary tract anomalies which were found to be absent. She was discharged on the 8th post operative day and given a 6 weeks follow-up.

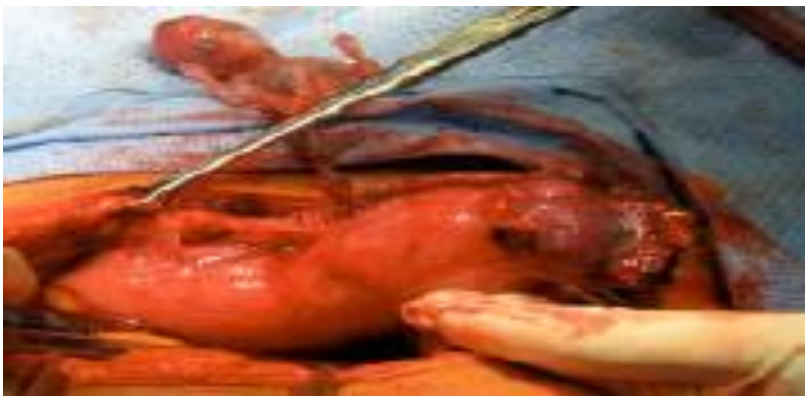

**Fig-1: Unicornuate uterus with ruptured left rudimentary horn**

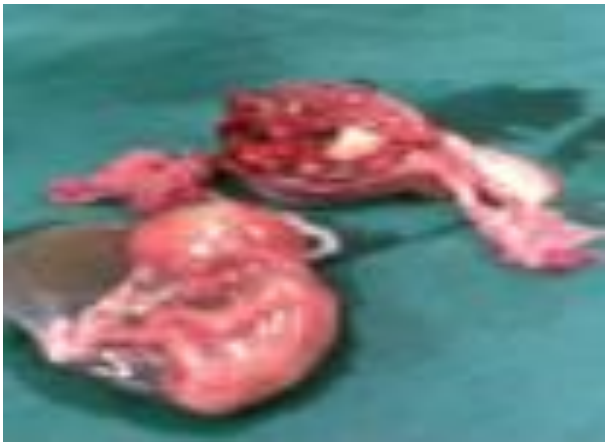

**Fig-2: fetus with placenta**

## DISCUSSION

Rudimentary horn with a unicornuate uterus results from failure of complete development of one of the mullerian ducts and incomplete fusion with the contralateral side. In 83% of cases the rudimentary horn is non-communicating [5].Pregnancy in a non-communicating rudimentary horn occurs through the transperitoneal migration of the spermatozoon or the transperitoneal migration of the fertilized ovum [6]. The first case of uterine rupture associated with rudimentary horn was reported in 1669 by Mauriceau [7]. As the uterine wall is thicker and more vascular, bleeding is more severe in rupture of a rudimentary horn pregnancy [8]. Rupture of the rudimentary horn is still common but no case of maternal death has been published since 1960 [9]. Early diagnosis of the condition is essential and can be challenging. Ultrasound, hysterosalpingogram, hysteroscopy, laparoscopy, and MRI are diagnostic tools [10]. Fedele et al. have found ultrasonography to be useful in the diagnosis [11]. But the sensitivity of ultrasound is only 26% and sensitivity decreases as the pregnancy advances [12].Tubal pregnancy, cornual pregnancy, intrauterine pregnancy, and abdominal pregnancy are common sonographic misdiagnosis [13].Tsafrir et al outlined a set of criteria for diagnosing pregnancy in the rudimentary horn [14].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 myometrial tissue surrounding the gestation sac. None-the-less most cases remain undiagnosed until it ruptures and presents as an emergency. The usual outcome of rudimentary horn pregnancy is rupture in second trimester in 90% of cases with fetal demise [15], however cases of pregnancy progressing to the third trimester and resulting in a live birth after caesarean section has been documented [16].

Primary strategy of management of rudimentary horn is surgical removal [9]. Edelman et al. showed a case detected at an early gestational week and treated successfully with methotrexate administration [17].

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. Renal anomalies are found in 36% of cases [12]; hence it is mandatory to further assess these women.

## CONCLUSION

Pregnancy in a rudimentary horn carries grave risk to the mother. 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. Precious time may be lost due to delay in diagnosis or misdiagnosis. There is need for increased awareness of this rare condition and to have a high index of suspicion especially in developing countries where the possibility of early detection before rupture is unlikely

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