

## Two near Miss Case of Undiagnosed Rudimentary Horn Pregnancy and Review of Literature.

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**Abstract:** Rudimentary horn is a developmental anomaly of the uterus. Pregnancy in a rudimentary horn is rare, represents a form of ectopic gestation. The diagnosis of the rudimentary horn pregnancy and its rupture in a woman is very difficult. It can be missed in routine ultrasound scan. Pregnancy usually terminates by rupturing in second trimester in 90% cases. Cases of pregnancy progressing to the third trimester resulted in a live birth after cesarean section has been documented. We report two near miss cases of undiagnosed rudimentary horn presented in our department. 1<sup>st</sup> case presented to our department in shock with features of acute abdomen in a multigravida with history of caesarean section and the diagnosis was confirmed at laparotomy that revealed ruptured rudimentary horn pregnancy and excision of the accessory horn was done. 2<sup>nd</sup> case presented with intrauterine fetal demise in a primigravida at 15 weeks period of gestation. After failure of medical induction, dilatation of curettage was attempted. For suspicion of uterine perforation laparotomy was done. Excision of rudimentary horn altogether with the dead fetus and repair of perforated uterus was performed.

**Keywords:** Rudimentary horn, Ectopic gestation, Unicornuate,

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### I. Introduction

A unicornuate uterus with a rudimentary horn is a Mullerian duct malformation. Mullerian duct anomalies result from defective fusion, canalization or absorption of the median septum of the female reproductive system during embryonic development. Mullerian anomalies were first classified in 1979 by Buttram and Gibbons and further revised by the American society of Reproductive Medicine in 1988[1]. Unicornuate uterus is a type2 classification with unilateral hypoplasia or agenesis that can be further subclassified into communicating, non communicating, no cavity, and no horn. The incidence of mullerian duct anomalies in the normal fertile population is found to be 3.2%. A unicornuate uterus accounts for 2.4%-13% of all mullerian anomalies [2], 72-85% of rudimentary horns are non communicating with the cavity[3]. Unicornuate uterus with rudimentary horn may be associated with gynaecological and obstetric complications like infertility, endometriosis, haematometra, 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 two near miss case of rudimentary horn pregnancy diagnosed during laparotomy.

### II. Case Reports

#### a) Case I

A 35 year old gravida 5 para 4 with 3 living issues with post caesarean with twice post vaginal birth after caesarean (VBAC) at 12 weeks 1 day period of gestation admitted in obstetric and gynecology deptt, RIMS with acute abdomen. She delivered a single male child 15 years back by emergency lower segment caesarean segment (LSCS) under spinal anaesthesia for malposition of baby in a private hospital. Followed by she delivered a single live female baby by VBAC 10 years back at home. Followed by she delivered an intrauterine dead baby 4 years back after seven months of gestation. Her last child, male was born 2 years back by VBAC at home.

She presented in our department with drowsiness not oriented to time place person, with history of urine pregnancy test positive with unrecordable blood pressure, pulse rate 176 per minute, spo<sub>2</sub> 55% without oxygen, no urine output after catheterisation.. Abdomen was mildly distended.



**Figure 1** - Rudimentary horn (ruptured) and fetus with placenta.

On per vagina examination uterus was bulky with no bleeding. After initiating resuscitation ultrasound screening was done & haemoperitoneum for ruptured ectopic pregnancy was diagnosed and patient was prepared for emergency laparotomy. On opening of abdomen, there was haemoperitoneum (2000 ml) with clots (1000ml) with unicornuate uterus with gravid right rudimentary horn with fetus of 12weeks size with placenta in abdominal cavity. Excision of right rudimentary horn followed by right salphingoophorectomy was performed as shown in Figure no 1. Intraoperatively 2 units of PRBC was transfused. Patient was shifted to intensive care unit. Postoperatively her blood pressure was 96/60, pulse rate 132/minute, respiratory rate 32 , marked pallor, 100 ml urine output, 100% spo2 with moist oxygen . Patient was observed in ICU for five days. Catheter removed on 4<sup>th</sup> day. Total 8 unit of PRBC and 5 units of FFP was transfused during hospital. Patient was discharged on 10<sup>th</sup> day.

**b) Case II**

A 19 year primigravida admitted in obstetric and gynaecology department with intrauterine fetal demise at 15 weeks pregnancy (ultrasound). medical induction with misoprostol followed by cerviprime gel application (twice), followed by induction with syntocinon were attempted. Mechanical dilatation with foley's catheter also was attempted. As no response to cervix, dilatation with hegar's dilator and evacuation with ovum forceps was attempted. As perforation of uterus suspected during procedure, emergency laparotomy under combined spinal and epidural anaesthesia was done. Intraoperatively rudimentary horn pregnancy in a unicornuate uterus (communicating type) was diagnosed. Removal of right sided rudimentary gravid horn with right ovary was done as shown in Figure no 2,3 & 4 and repair of wound in non gravid unicornuate uterus was done. Haemostasis was maintained. There was no postoperative complication. Drain and catheter was removed on 3<sup>rd</sup> post operative day. Patient was discharged satisfactorily on 7<sup>th</sup> post operative day.



**Figure 2** - Rudimentary horn pregnancy and perforated non gravid unicornuate uterus



**Figure 3:** Gravid rudimentary horn.



**Figure 4:** Rudimentary horn with placenta with dead fetus

### III. Discussion

Rudimentary horn is a rare uterine anomaly. The incidence is estimated at 1 per 100000 to 140000 pregnancies [3]. Pregnancy in a non communicating rudimentary horn occurs through the transperitoneal migration of the spermatozoon or transperitoneal migration of the fertilized ovum. The first case of uterine rupture associated with rudimentary horn was reported in 1669 by Mauriceau [5]. The timing of rupture varies from 5 to 35 weeks depending on the horn musculature and dilate. 70 to 90% rupture before 20 weeks and can be catastrophic [6]. As the uterine wall is thicker and more vascular, bleeding is more severe in rudimentary horn pregnancy rupture [7].

Pre rupture diagnosis of rudimentary horn pregnancy has drastically reduced maternal mortality. But the sensitivity of ultrasound to detect pre rupture rudimentary horn pregnancy is very poor (30%) [8], probably because of rarity of the diagnosis and non familiarity of the radiologists about this potentially lethal condition. Early diagnosis before rupture can be managed laparoscopically [9]. A careful ultrasound in the first trimester with a high index suspicion, one should be able to make a diagnosis of pregnancy in the rudimentary horn [10]. Tubal pregnancy, cornual pregnancy and abdominal pregnancy are common sonographic and clinical misdiagnosis. It is very difficult to establish diagnosis in second trimester due to lack of definitive criteria. Tsafir et al. proposed the following criteria for ultra sonographic diagnosis- (a) A pseudo pattern of an asymmetrical bicornuate uterus (b) Absent visual continuity tissue surrounding the gestation sac and the uterine cervix and (c) The presence of myometrial tissue surrounding the gestational sac [8]. Three dimensional ultrasound imaging and MRI are useful tools in the improvement of diagnostic accuracy, guiding both counselling and surgical planning [11].

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. Laparoscopic excision of the rudimentary horn pregnancy prior to rupture has been done successfully since last decades [10] Renal anomalies found in 36% of cases. Hence it is mandatory to assess these women prior to surgery and if required better to do ureterolysis before the excision of the horn . medical management with methotrexate during early pregnancy has also been used successfully [12].

### IV. Conclusion

Pregnancy in rudimentary horn is rare and carries grave consequences for the mother and the fetus. Therefore, high index of suspicion is warranted to detect this rare and very important complication of pregnancy before uterine rupture occurs or before termination of pregnancy. Excision of rudimentary horn is advised to prevent life threatening massive intraperitoneal haemorrhage and maternal mortality.

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