

## Rudimentary Horn Pregnancy: A Diagnostic Dilemma

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### Abstract

*Background:* Rudimentary horn pregnancy carries grave consequences for the mother. Though sonography and magnetic resonance imaging can clinch the diagnosis in early stages, majority of the cases are diagnosed only after rupture of rudimentary horn with intra-peritoneal hemorrhage. *Case:* A 27 years old gravid 3 para 1 abortion 1 presented at 8 weeks of pregnancy with pain abdomen. Per vaginal examination and sonography revealed healthy intra-uterine pregnancy. The same lady was referred at 20 weeks pregnancy with the sonographic diagnosis of abdominal pregnancy. Surprisingly, laparotomy revealed right sided rudimentary horn pregnancy with impending rupture. Excision of rudimentary horn alongwith right salpingectomy was done. *Conclusion:* As rudimentary horn pregnancy is always associated with catastrophic outcome, every effort should be made to diagnose it at an early stage. High index of clinical suspicion and carefully done ultrasonography can make the diagnosis in pre-rupture stage. Secondly, accurate pre-operative diagnosis is must to plan exact surgical management.

**Keywords:** Rudimentary Horn; Pregnancy.

### Introduction

Rudimentary horn pregnancy is rare with an incidence of 1 in 1,00,000-1,40,000 pregnancies [1]. It is associated with high rate of spontaneous abortions, preterm labor, rudimentary horn rupture and intra-peritoneal hemorrhage. Here is a case report of rudimentary horn pregnancy of 20 weeks with impending rupture which was missed in first trimester and misdiagnosed as abdominal pregnancy in second trimester on ultrasonography.

### Case Report

A 27 years old gravida 3 para 1 abortion 1 presented at 8 weeks of pregnancy with mild pain abdomen. Her vitals were stable. On per vaginal examination, uterus was enlarged to 8 weeks size with no tenderness or fullness in the fornices. Ultrasonography revealed live intra-uterine

pregnancy of 8 weeks. Her obstetrical history revealed first preterm delivery at 8 months of gestation and second spontaneous abortion at 3 months of gestation.

The same lady was referred to our institute from a private practitioner at 20 weeks with sonographic diagnosis of abdominal pregnancy. Her presenting complaints were pain abdomen since one day which was moderate in intensity, intermittent, not associated with bleeding or leaking per vaginum. There was no prior history of trauma, sexual intercourse, any bladder or bowel disturbance. She was hemodynamically stable. On per abdominal examination, there was a 22 weeks size abdomino-pelvic mass with ill-defined contour from side to side and fetal parts were superficially palpable. Per vaginal examination revealed closed os with cervix deviated to left side and there was a cystic mass felt through right fornix. Immediate laparotomy was planned with adequate blood in hand. Per-op findings were- uterus was enlarged to 8 weeks size, there was right sided rudimentary horn pregnancy, bilateral tubes and ovaries were normal, a thick

fibrous band was present between rudimentary horn and the uterus. The pregnant rudimentary horn was extremely thin walled with transparent areas at few places and prominent vessels on the surface. Due to difficulty in applying clamps, a nick was given in the most thinned out part and fetus was extracted out. Excision of rudimentary horn was done after

clamping, cutting and ligating right sided round ligament, tubo-ovarian pedicle. Right sided salpingectomy was also done to prevent ectopic pregnancy in future. Her post-operative period was uneventful.

### Discussion

Pregnancy in a non-communicating rudimentary horn occurs through trans-peritoneal migration of the sperm or the fertilized ovum [2]. It carries grave consequences for the mother. Abdominal pain is the commonest presenting symptom which commences from the end of first trimester or beginning of second trimester. Vaginal bleeding is rare, but it is more likely to be associated with pregnancy in a communicating horn [3]. Rupture of rudimentary horn in second trimester with hemoperitoneum is the usual outcome in 90% of the cases [4].

Majority of the cases are diagnosed surgically after the rupture of pregnant rudimentary horn, though pre-rupture sonographic diagnosis is possible [5,6]. In our case, diagnosis was missed in early stage. Tsafir et al proposed a set of criteria for the early diagnosis of rudimentary horn pregnancy: (1) a pseudopattern of an asymmetrical bicornuate uterus, (2) absent visual continuity tissue surrounding the gestational sac and the uterine cervix, and (3) the presence of myometrial tissue surrounding the gestational sac. Typical hyper-vascularization of placenta accreta may support the diagnosis [5].

Tubal ectopic pregnancy, cornual pregnancy, pregnancy in a bicornuate uterus and abdominal pregnancy are the important sonographic differential diagnosis. Tubal pregnancy will not show a ring of myometrium surrounding gestation sac [5]. Moreover, tubal pregnancies rupture by 12 weeks of gestation. In our case, pregnancy continued till 20 weeks without rupture. In cornual pregnancy, sonography will reveal an interstitial line that extends from the uterine cavity to the cornual gestation sac [7]. The continuity between endometrial lining the gestation sac and other uterine horn is typical of pregnancy in a bicornuate uterus [6]. In our case, pregnancy was either rudimentary horn pregnancy or abdominal pregnancy. An extra-uterine gestation accompanied by a well defined placenta has been suggested to be the criteria for differentiating rudimentary horn pregnancy from abdominal pregnancy [8]. Magnetic resonance imaging can further help to make diagnosis [5,6]. Rudimentary horn pregnancy can be associated with placenta percreta due to poorly developed musculature, scant decidualization and small size of



Fig. 1: Ultrasound showing empty uterus with extrauterine foetus

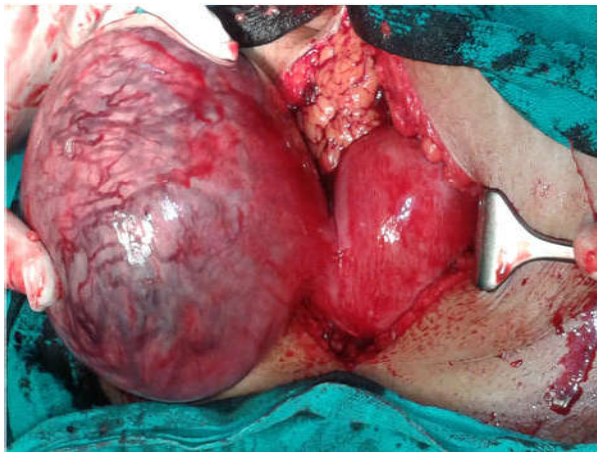


Fig. 2: Intraoperative view showing bulky uterus with right sided rudimentary horn pregnancy

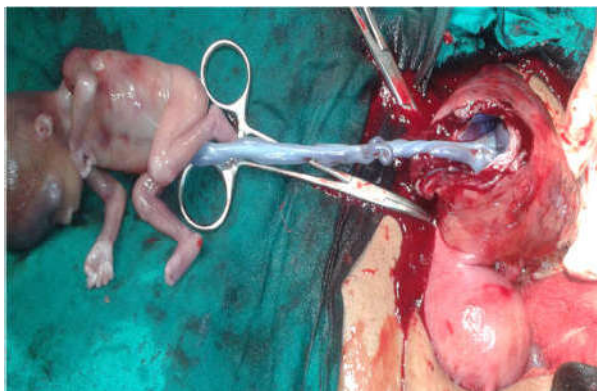


Fig. 3: Intraoperative view showing foetus extracted from rudimentary horn

the horn. The thin muscular wall of the rudimentary horn, alongwith high incidence of placenta accreta increases the chances of rupture [9]. Therefore immediate surgical intervention must be performed whenever the diagnosis of rudimentary horn pregnancy is made. In our case, earlier scans missed the diagnosis and only when she had pain abdomen, a detailed sonography made the diagnosis as abdominal pregnancy.

### Conclusion

Imaging studies like ultrasonography and MRI can make the diagnosis of rudimentary horn pregnancy in pre-rupture stage. In developing countries like ours, where patient load is very high, it might not be possible to get MRI done for every patient especially in emergency. So, high index of clinical suspicion aided by carefully done sonography can capture the diagnosis at an early stage. Secondly she was misdiagnosed as a case of abdominal pregnancy in second trimester. Accurate pre-operative diagnosis is must to plan exact surgical management.

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