

## An unusual case of acute abdomen in mid-trimester pregnancy

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### Introduction

The prevalence of congenital uterine anomalies among females of reproductive age group has been reported as 1:200 to 1:600. One such rare congenital uterine anomaly is rudimentary horn. The prevalence of unicornuate uterus with rudimentary horn is even rarer i.e. 1:100,000.<sup>(1)</sup>

These uterine anomalies present with very few problems in the absence of pregnancy provided there has been no obstruction to menstrual flow. Pregnancy in a rudimentary horn is rare and that too in non-communicating horn is extremely difficult to diagnose before it ruptures. Such cases pose a challenge for management due to diagnostic dilemma. One such interesting case is being reported here with undiagnosed rudimentary horn pregnancy whose diagnosis was confirmed only at laparotomy due to unusual presentation.

### Case Report

An unusual case of a 19-year-old woman, G2A1, with a pregnancy of 18 weeks, presented to the emergency unit of our department with acute abdominal pain, inability to pass flatus for one day and hypovolemic shock. There was history of dilatation and evacuation (D & E) following one and a half months of amenorrhea done four months back by a local practitioner for an alleged incomplete abortion for which no histopathology report was available. She remained amenorrhoeic and got a ultrasound done a month later which showed single, live intra-uterine pregnancy of 10 weeks and 2 days. She did not seek medical advice since then as she had no complaints till the day she presented to us. No other significant history was noted. On examination, the patient was conscious but in shock. Peripheral pulses (radial and brachial) were not palpable, BP not recordable. She was tachypnoeic and heart rate was 140/min. After 15-20 min of resuscitation with crystalloids her BP was recordable as 98/50 mm Hg. Clinically she was pale (~7 gm%) and afebrile. Abdominal examination revealed soft distention and tenderness all over. Uterine contour was well made out and corresponded to 18 weeks. Fetal heart sound was localised by Doppler. There was no guarding or rigidity, bowel sounds were absent and shifting dullness was present. Speculum examination did not reveal any cervical or vaginal pathology and without any active vaginal bleeding. In view of live

fetus and well preserved uterine contour an urgent surgical referral was done to rule out possibility of surgical pathology for acute abdomen. A probable surgical diagnosis of peritonitis was made.

The patient was resuscitated with intravenous fluids and further assessment with transabdominal ultrasound was done which showed a viable fetus of 18 weeks gestation in abdominal cavity and a mildly enlarged uterus with empty uterine cavity. There was a lot of free fluid in abdominal cavity. Decision for emergency laparotomy was taken with the provisional diagnosis of secondary abdominal pregnancy with haemorrhage.

An emergency laparotomy was performed immediately. Intraoperative findings revealed a unicornuate uterus, soft in consistency, globular and enlarged to a size consistent with eight weeks with a ruptured right rudimentary horn (Fig. 1). There was hemoperitoneum of around 2 litres and a live fetus (HR-50/min) with complete placenta was removed from abdominal cavity. The left fallopian tube and ovary were found healthy and were attached normally to the unicornuate uterus. Excision of the rudimentary horn and right fallopian tube with conservation of the right ovary was done (Fig. 2).



**Fig. 1: Right sided ruptured rudimentary horn with normal right ovary and normal unicornuate uterus**



**Fig. 2: Fetus with placenta and the excised rudimentary horn with the right fallopian tube**

Patient had a smooth postoperative recovery. Histopathological examination of the specimen confirmed the diagnosis of rudimentary horn pregnancy. Thus the final diagnosis of POA1 with unicornuate uterus with ruptured right rudimentary horn pregnancy was made. Patient was advised IVP in her follow up to rule out any associated renal anomalies.

### Discussion

Pregnancy in a non-communicating rudimentary horn is rare occurring in about 1 in 100000 to 140000 pregnancies.<sup>(2)</sup>

As the fetus enlarges the chances of rupture of the rudimentary horn are increased. The risk of rupture which is estimated to be about 50% and most commonly occurs in second trimester.<sup>(3)</sup> Under development and poor distensibility of the myometrium causes the thin muscular wall of the pregnant uterus to rupture early. Massive haemorrhage results in increased maternal and perinatal morbidity and mortality.

Various clinical features suggestive of a uterine anomaly have been described like past history of dysmenorrhoea, pregnancy along with a freely mobile tumor, passage of a decidual cast and absent tenderness on examination differentiating from ectopic.<sup>(4)</sup> Only a very small percentage of these rudimentary horn pregnancies are diagnosed accurately pre-operatively in spite of these described features.

Although our patient presented with an acute abdomen, but presence of live fetus and maintained uterine contour were not typical features of rupture rudimentary horn pregnancy with hemoperitoneum, which is rare.

The normal early pregnancy ultrasound also added to the diagnostic dilemma. Also, absence of products of conception in the D&E done for her in early pregnancy should have raised the suspicion of ectopic pregnancy which was completely missed. Diagnosis could be made only intra-operatively.

There are increased chances of placental adherence in such cases. This is because of the poorly developed musculature, scant decidualization and small size of the horn. Both rudimentary horn pregnancy and any abnormal placentation can be accurately diagnosed preoperatively by MRI. Ultrasound has been seen to have a lesser sensitivity of about 33.3% for diagnosing this anomaly, and sensitivity reduces even further with advancing pregnancy, adding to the diagnostic dilemma in such cases.<sup>(2)</sup>

Tsafir et al. defined some criteria for the rudimentary horn pregnancies which can be diagnostic in cases of rudimentary horn pregnancies<sup>5</sup> viz. pseudopattern of a asymmetrical bicornuate uterus, absent visual continuity of tissue surrounding the gestational sac and the uterine cervix, and the presence of myometrial tissue surrounding the gestational sac. Hypervascularization of placenta suggesting placenta accreta might support the diagnosis. A rudimentary horn pregnancy can never be delivered vaginally, and the mode of delivery is always a laparotomy, both with consequence of ruptured horn or if the pregnancy continues as abdominal post-rupture.

The traditional and established treatment for rudimentary horn pregnancy is surgical removal of the pregnant horn even in unruptured case to prevent rupture and recurrent rudimentary horn pregnancy.<sup>(6,7,8)</sup> However, laparoscopic excision of an unruptured rudimentary horn pregnancy has been increasingly carried out with favourable outcome in many expert centres.<sup>(9)</sup>

### Conclusion

A careful clinical examination in early pregnancy and finding of a deviated normal sized uterus with palpable adnexal mass should arouse suspicion of uterine anomaly. Although relatively insensitive, the routine ultrasound may prove helpful if these differential diagnoses are kept in mind. Clinicians should be alert to the possibility of such malformations in patients presenting with acute abdomen in reproductive age group. High clinical suspicion, early diagnosis and timely laparotomy can reduce maternal and perinatal morbidity and mortality.

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