

## A Rare Case of Cornual Pregnancy – Diagnostic and Therapeutic Challenges in Cornual and Interstitial Pregnancies

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### Abstract

A 29 years old female G7P2A4L2 with 7 weeks amenorrhea, presented to ED with h/o pain abdomen since 18-19 days, spotting 10 days back and bleeding per vagina since 3-4 hrs with expulsion of clots? fetal parts. USG in ED revealed bicornuate uterus with irregular gestational sac (5.4 weeks) without fetal pole or cardiac activity at right cornua, suggestive of incomplete miscarriage.

**Keywords:** Extrauterine Pregnancy; Cornual Pregnancy; Interstitial Pregnancy; Angular Pregnancy; India.

### Introduction

Extrauterine pregnancies or those in anomalous uterus usually leads to miscarriages and/or life threatening bleeding.

Cornual pregnancy is term used for 3 different pregnancies.

*Cornual pregnancy:* This is a true cornual pregnancy. This means the presence of embryo in either of the horns of a bicornuate uterus. Truly speaking this is not considered as an ectopic pregnancy as it occurs with in uterine cavity of an abnormal uterus. Such pregnancies rarely reach full term. If it grows and ruptures, it can cause life threatening intraabdominal bleeding, though cornual pregnancies rupture at later stage as compared to other ectopics because myometrium is more distensible as compare to fallopian tube. Many cases of cornual pregnancies are diagnosed only after rupture. Strassman metroplasty is usually done for bicornuate uterus with recurrent miscarriages to prevent further miscarriages.

*Interstitial pregnancy:* This refers to the presence of embryo within the intramural proximal portion of the fallopian tube which lies in the muscular

wall of uterus. This is considered as an ectopic pregnancy as it occurs outside the uterine cavity. This is the rarest form of ectopic pregnancy and has the highest mortality of all types of ectopics and usually ruptures before 12 weeks of gestation.

*Angular pregnancy:* This is an intrauterine pregnancy with embryo implanted lateral in the uterine cavity medial to the uterotubal angle and the round ligament, though an intrauterine pregnancy, it is potentially dangerous condition associated with uterine rupture, often in the second trimester [7].

### Case Study

A 29 years old female, known case of kidney disease on steroids and G7P2A4L2 with two previous LSCS with 7 weeks amenorrhea, presented to ED with h/o pain abdomen since 18-19 days, spotting 10 days back and bleeding per vagina since 3- 4 hours with expulsion of clots? fetal parts.

USG abdomen done outside 2 days back showed a peripheral gestational sac (6w 6d) in the right cornual region (? Partly interstitial gestation), meaning that the fetus was still viable that time.

Physical examination revealed mild abdominal pain with stable vitals; Pulse: 88/min, BP: 110/70 mm Hg, RR:18/min, Temperature: afebrile, Sp:99% on room air. Patient was conscious, oriented, no pallor, icterus, dehydration on examination.

P/A - Soft, Mild tenderness in hypogastric region; No organomegaly/guarding/rigidity.

P/S - Spotting +, No active bleeding p/v at present.

P/V - uterus 6 weeks height, anteverted, B/L Fornix free, OS closed.

Neurological, Cardiovascular, Respiratory examinations were insignificant.

Repeat USG done, showed right cornual pregnancy, Serum B HCG level - 82298. OBGY consultations were requested and the patient was admitted and urgent USG-guided dilatation and curettage done, post-procedure uneventful. She was discharged in a stable condition after 2 days.

#### *Course in the Hospital and Outcome*

After initial pain management, patient was immediately taken for Ultrasonography. Repeat USG abdomen revealed uterus bicornuate (deep arcuate morphology), thickened heterogenous endometrium (17mm), Irregular Gestational sac (5.4 weeks) seen at right cornua without Fetal pole or Cardiac activity suggestive of missed abortion/retained product of conception.

Her Serum B HCG level - 82298.



OBGY consultations were requested and the patient was admitted and urgent USG-guided dilatation and curettage done that went uneventfully. She was discharged in a stable condition after 2 days.

#### **Discussion and Therapeutic considerations**

Risk factors associated with the higher incidence of interstitial ectopic pregnancy include uterine anomalies, previous ectopic pregnancy or salpingectomy, pelvic inflammatory disease, *in vitro* fertilization and ovulation induction, adhesions. In our index case, uterine anomalies are the risk factor.

Interstitial ectopic pregnancy is associated with a higher risk of shock and hemoperitoneum than other forms of ectopic pregnancy, as well as with a higher risk of maternal mortality due to delayed diagnosis and high vascularity of the myometrium, specially at cornual region, those are supplied by both ovarian and uterine arteries. The typical rupture of these ectopic pregnancies within the myometrium usually occurs later than 9 weeks and as late as 20 weeks. The presence of an eccentrically located gestation sac with incomplete or asymmetric myometrial tissue, <5 mm in thickness, is a highly suggestive but nonspecific indicator of interstitial pregnancy. The presence of an echogenic line between the gestation sac and the endometrial cavity, also known as the interstitial line sign, is highly sensitive and specific for interstitial ectopic pregnancy [1,2,3,4,5,6,8,9].

In this case because of incomplete abortion, patient was having symptoms and diagnosed early, and managed appropriately. As risk factor is present in this case, if that was recognized earlier, complication can be avoided.

Pregnancy in an anomalous uterus, as in bicornuate uterus, is a very high risk pregnancy and even minor symptoms like pain abdomen should alert the emergency physician for possibility of miscarriage. And the presence of h/o recurrent abortions should alert the possibility of some uterine abnormalities, as seen in our patient, which should have been corrected before conceiving.

#### **Conclusion**

Why should an emergency physician be aware of pregnancy in an anomalous uterus! This is because cornual pregnancies have high chances of miscarriage with life-threatening internal bleeding.

A cornual pregnancy is difficult to diagnose preoperatively with low ultrasonographic sensitivity and is easily confused with tubal ectopic pregnancy or a normal intrauterine pregnancy.

An early diagnosis of cornual pregnancy is important as a delay in the correct diagnosis is known to increase the risk of maternal morbidity and mortality.

It has been reported that 3D ultrasound and MRI can give more accurate information about the exact position of the gestational sac which can be treated appropriately before complications develop.

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