

Is Interstitial Pregnancy Clinically Different From Cornual Pregnancy? A Case Report

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ABSTRACT

Interstitial pregnancy is a rare form of ectopic pregnancy with significant risk for morbidity. A 32-year-old woman, was brought to the emergency department with severe abdominal pain and syncope. There was no history of menolipsis and usage of any contraceptive methods. Serum β hCG arrival was 11224 IU/L. Trans-vaginal ultrasound scan showed an empty uterus with a displaced 16×26 mm gestation sac on the left corn of the uterine cavity which surrounded by a thin myometrium. Free abdominal fluid and coagulum were also detected in the cul-de-sac. She was haemodynamically unstable. A ruptured ectopic pregnancy was diagnosed in the left uterine cornu during emergency laparotomy. Cornual resection was performed. Interstitial and cornual pregnancies should be considered as two different clinical situations. It is important to enhance the clinician's suspicion about interstitial/cornual pregnancy. Thus, more detailed examination by transvaginal ultrasonography may contribute for accurate localization and diagnosis.

Keywords: Ectopic pregnancy, Rupture, Transvaginal ultrasonography

CASE REPORT

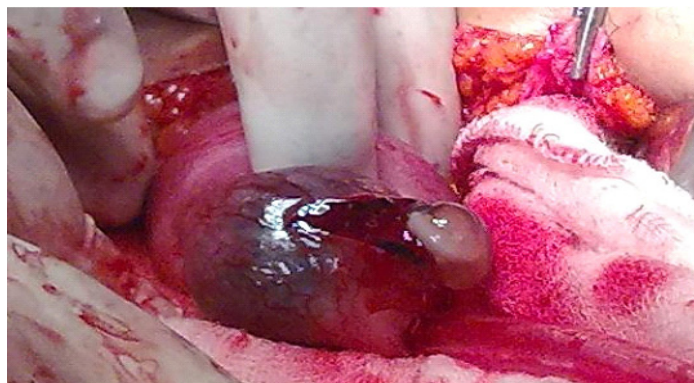
A 32-year-old gravida 2, para 1 woman was referred to the emergency department of Zeynep Kamil Gynecologic and Pediatric Training Research Hospital on March/2012 with severe abdominal pain and syncope. Her menstrual periods were regular, which usually lasted 8 days in a cycle of 30 - 35 days. Her abdominal pain symptom had started two weeks ago which is increasing day by day. Syncope occurred (5 or 6 times) just before arriving at hospital. Vaginal bleeding was absent. She had no past or current medical problem. On arrival, she was in hypovolemic shock with intense pallor, poor peripheral perfusion and looking very drowsy. The pulse rate was 120 beats/min, her blood pressure was 75/40 mmHg and her axillary body temperature was 36.3°C. Left lower quadrant tenderness and rigidity was detected. Vaginal examination revealed cervical discharge and left adnexal tenderness but no vaginal bleeding. Transvaginal ultrasound scan showed an empty uterus, a displaced 16×26 mm gestation sac in the left corn of the uterus and surrounded by a thin myometrium which contained an embryo with a crown rump length of 7.5 mm. Free abdominal fluid and coagulum were also detected in the cul-de-sac on transvaginal ultrasound. In addition, laboratory evaluation revealed that hematocrit was 23.6 % , hemoglobin 7.2 gr/dl, white cell blood count 6500 /mL, normal liver and kidney function tests. Her hCG value was 11224 mIU/mL. The clinical and radiological findings were suggestive of ruptured ectopic pregnancy. During the emergency laparotomy 500 ml blood

and nearly 1500 ml coagulums were drained. The conceptus of 6 weeks 5 days interstitial/cornual pregnancy which was extruded through the left uterine cornu was identified [Table/Fig-1] and removed via wedge resection. The ovaries, fallopian tubules, and remainder parts of the uterus were normal. Peroperatively four units of packed red cells were transfused. The patient recovered well after the laparotomy and was discharged from the hospital on the third postoperative day. Decisive histopathology report of the removed material confirmed the interstitial/cornual ectopic pregnancy.

DISCUSSION

The incidence of ectopic pregnancy among women who go to an emergency service during the first trimester with complaining vaginal bleeding, abdominal pain, or both ranges from 6 to 16% [1]. Clinical symptoms of ectopic pregnancy frequently appear 6 to 8 wk after the last normal menstrual period. However, clinical manifestations can develop later if the pregnancy is not localized in the fallopian tube. When the fertilized ovum is implanted well within the cornual/interstitial portion, rupture usually do not occur until 14 to 16 weeks, often with severe hemorrhage. Rupture usually occurs spontaneously, but it may follow coitus or bimanual examination [2-4].

Interstitial and cornual ectopic pregnancy can be used in the place of each other. However, they actually describe two different entities. Cornual implantation describes those in the upper and lateral uterine cavity, whereas interstitial denotes those implanted within the proximal intramural portion of the tube. Only 2 to 3% of all tubal pregnancies are either interstitial or corneal [5]. Interstitial and cornual pregnancies have a mortality rate of 2–2.5% and this accounts for 20% of all deaths due to ectopic pregnancies [6,7]. Early diagnosis of interstitial/cornual pregnancy before the uterine ruptures is still difficult. Failure to diagnose ectopic pregnancy before rupture limits the treatment options and increases maternal morbidity and mortality. Cornual/interstitial pregnancy diagnosis can be made preoperatively by ultrasonography and human chorionicgonadotropin hormone (hCG) testing. Detection is aided by recent advances in transvaginal ultrasound imaging. In a similar article, Ackerman et al., described the interstitial line sign referring to the delineation of an echogenic line marginating the mass or sac in question and connecting the superior endometrial canal and



[Table/Fig-1]: Ruptured left cornual ectopic pregnancy

the cornual region, reportedly 80% sensitive and 90% specific for the diagnosis [8]. Other reported criteria include an empty canal with a chorionic sac at least 1cm separate from the lateral margin and surrounded by a thin mantle of myometrium measuring 5 mm or less. In conjunction with one another, these latter findings carry an average specificity of 88–93% but a sensitivity of only 40% [9]. Due to their relative rarity and potential initially confusing clinical and radiologic presentation, cornual ectopics may pose a problematic diagnosis for both the ER physician and radiologist. Three-dimensional ultrasound and 4-dimensional volume contrast imaging are useful if the precise location of a pregnancy is unclear, such as in interstitial or cornual pregnancy [10-12]. Interstitial and cornual pregnancies usually differ from each other regarding to at which gestational age that got diagnosed. A series of 32 cases of interstitial pregnancy in registry reported tubal rupture occurred in 14 patients and all were before 12 wk (mean, 6.9 wk) [3]. Rupture or diagnosis of cornual pregnancy usually occurs after 12 weeks, leading to severe intra abdominal hemorrhage and even death [13]. In our case, gestational age was 6 wk 5 d (CRL 7.5 mm). Findings in our case also support the difference between these two entities.

Both may be treated by cornual resection via laparotomy. Alternatively, several authors have described treatment with uterus-sparing laparoscopic surgery or methotrexate [2-4]. In a study including 1800 ectopic pregnancy cases, almost one third of cornual ectopic pregnancies were diagnosed after rupture and accompanied with significant hemoperitoneum related to the advanced gestational age [14]. In our case, an emergency laparotomy was performed because of hemodynamic instability. The diagnosis prior to rupture is important in cornual/interstitial pregnancy in order to hold the chance of preserving the fertility by appropriate methotrexate treatment before rupture occurs [15,16].

CONCLUSION

In conclusion, our case report demonstrates that interstitial and cornual pregnancies should be considered as two different clinical situations and interstitial pregnancies can rupture before 12 -16 wk of gestational age. Demonstration of interstitial pregnancy even at an early gestational age may deserve immediate intervention instead of expectant management to avoid life threatening situations such

as hemorrhagic shock and decrease high mortality. It is important to enhance the clinician's suspicion about interstitial/cornual pregnancy. Thus, more detailed examination by transvaginal ultrasonography may contribute for accurate localization and diagnose in order to preserve the fertility by receiving appropriate methotrexate treatment before rupture occurs.

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