A true cornual pregnancy with placenta percreta resulting in a viable fetus

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ABSTRACT

Cornual pregnancy is uncommon among ectopic pregnancies. A diagnosis of cornual pregnancy remains challenging, and rupture of a cornual pregnancy causes catastrophic consequence due to massive bleeding. In very rare circumstances, cornual pregnancies can result in a viable fetus. We report a case of a 24-year-old primigravida who presented to us with complaints of decrease fetal movements at 37+5 weeks. Ultrasound revealed a single live intrauterine fetus with anterior low lying placenta with severe oligohydramnios (amniotic fluid index = 1.8). Emergency cesarean section was done and intraoperatively it was diagnosed as a case of placenta percreta with pregnancy in right noncommunicating horn of uterus. Right cornual resection with right salpingectomy done. Uterus, left fallopian tube and bilateral ovary were healthy. Postoperative period was uneventful.

Key words: Cornual pregnancy, ectopic pregnancy, emergency laparotomy, placenta percreta

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INTRODUCTION

Cornual pregnancy is a rare form of ectopic pregnancy where implantation occurs in the cavity of a rudimentary horn of the uterus, which may or may not be communicating with the uterine cavity.[1] Cornual pregnancy represents 2–4% of all tubal pregnancies and occurs once in every 2500–5000 live births.[2] The increased difficulties associated with the diagnosis and management of cornual gestations have resulted in this being the most hazardous of ectopic pregnancies.[3,4] As a result, uterine rupture may occur in up to 20% of the cases that progress beyond 12 weeks of amenorrhea,[3] resulting in massive hemorrhage due to high vascularity in this region through the branches of the uterine and ovarian arteries,[4] leading to a higher mortality rate.[7] In very rare circumstances, cornual pregnancies can result in a viable fetus.[8] This case is presented because of its rarity where cornual pregnancy was continued to a late gestation without rupture and was diagnosed at the time of cesarean section with a successful conservation of uterus.

CASE REPORT

A 24-year-old, unbooked primigravida presented to labor room with the complaint of decreased fetal movement at 37+5 weeks of gestational age. There was no history of bleeding or leaking per vaginum. Her previous menstrual cycles were regular and she was sure about her dates. There was no history of pelvic inflammatory disease (PID), previous pelvic surgery or assisted reproductive technique (ART) procedures. She belonged to a tribal community without proper antenatal care with history of two antenatal checks up in a peripheral hospital. She had two previous ultrasound scan reports done in second and third trimester showing single live intrauterine fetus with anterior low lying placenta at 24+3 weeks and 34+3 weeks of gestation respectively.

General examination revealed mild pallor with no abnormality detected in other systemic examination. Abdominal examination revealed term size gravid uterus with a live baby in cephalic presentation. Head was not engaged and liquor was clinically reduced. Ultrasonography revealed a single live intrauterine fetus in cephalic presentation with anterior low lying placenta and severe oligohydramnios (amniotic fluid...
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Emergency caesarean section was planned. Intraoperatively engorged vessels were found in the lower segment. Vessels were ligated at two places and incision was given in between. A female baby weighing 2.3 Kg was delivered by cutting through the placenta. The Apgar score was 7 and 9 at 1 and 5 min. Liquor was scanty and thick meconium stained. Placenta could not be delivered and found morbidly adherent [Figure 1]. There was severe bleeding from the placental bed and intraoperative blood loss was around 1500 ml. Intraoperatively it was diagnosed that pregnancy occurred in the right horn noncommunicating horn of uterus. Uterus, left adnexa and bilateral ovaries found normal [Figures 1 and 2]. Resection of right horn with right salpingectomy done [Figure 3]. Intraoperatively one unit and post operatively two units of blood transfused. She had an uneventful postoperative period and she was discharged on day 7 in good condition. Postnatal fetal ultrasound revealed no abnormality. Histopathology of placenta confirmed the diagnosis of placenta percreta.

**Discussion**

In cornual pregnancy, the rudimentary horn does not always communicate with the rest of the uterine cavity in which case it must be assumed that spermatozoa ascend through the other horn and tube and fertilize an ovum in the peritoneal cavity. This then enters the tube of the rudimentary horn. An important feature of cornual pregnancy is that the sac is surrounded by myometrium and even though it is poorly developed, it can contain the pregnancy for a longer period than tube or ovary. In some respects cornual pregnancy resembles the interstitial type of tubal pregnancy and they can be confused at the time of operation. A distinguishing feature is the insertion of the round ligament, which is always lateral to the cornual pregnancy. The risk factors for cornual and interstitial pregnancy are similar to those for ectopic pregnancy in general, including pelvic PID, previous pelvic surgery and the use of ART. In our case, there were no such risk factors found. The possible mechanism in ART procedures that have been proposed to explain this include hydrostatic forces delivering the embryo into the cornual or tubal area, the tip of the catheter directing transfer towards the tubal ostia, or reflux of uterine secretions leading to retrograde tubal implantation.

Early diagnosis of cornual pregnancy can be done with transvaginal ultrasound. In our case, two abdominal ultrasound scans done one in second and one in third trimester each which failed to diagnose the condition. Tulandi and Al-Jaroudi reviewed the management of 32 reported cases of cornual pregnancy. Ultrasound revealed an ectopic cornual gestational sac in 40.6% of women and a hyperechoic mass in the cornual region in another 25%. The diagnosis was established in 71.4% of 32 women with a sensitivity of 80% and specificity of 99%. Four-dimensional volume contrast imaging can differentiate between angular and cornual pregnancy. Uterine rupture may occur in up to 20% of the cases of cornual pregnancy that progress beyond 12 weeks of amenorrhea, resulting in massive hemorrhage. In very rare
circumstances, the pregnancy was continued to a late gestation resulting a viable fetus as reported by Hill et al.[8] where the interstitial pregnancy was not ruptured at the time of cesarean delivery and uterus was conserved successfully.

Traditionally, the treatment of cornual pregnancy has been hysterectomy or cornual resection at laparotomy. Conservative techniques such as laparoscopic cornual resection, laparoscopic cornuostomy or hysteroscopic removal of interstitial ectopic tissue, unilateral uterine artery ligation have been tried.[9] Medical methods such as systemic methotrexate, ultrasound-guided methotrexate, laparoscopic-guided methotrexate (or potassium chloride) or systemic methotrexate, followed by selective uterine artery embolization are safe and highly effective treatment for cornual pregnancy and hence that surgery can be avoided.[10] A follow-up with serial serum beta-human chorionic gonadotropin is essential.

Conclusions

Our patient presented in relatively late gestation, and the diagnosis was done at the time of caesarean section. Uterus was conserved after resection of the right horn with placenta percreta. Cornual pregnancy can cause significant maternal mortality and morbidity, hence early diagnosis aided by ultrasound or laparoscopy may help to contribute toward effective conservative management.

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