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Abstract: Cornual pregnancy is a potentially life-threatening condition that should be managed safely in a timely fashion. Cornual pregnancy often poses a diagnostic and therapeutic challenge, with a significant risk for morbidity and mortality. Early diagnosis is now possible through ultrasonography and highly sensitive β-human chorionic gonadotropin assays. Herewith we presented a 25 year old presented to the emergency unit and diagnosis of ectopic pregnancy was established. This case is presented because of its rarity where there were a dilemma in the diagnosis and we successes to an achieved a satisfactory outcome. We recommend that every corneal pregnancy confirmed by transvaginal ultrasound or MRI to perform hysteroscopy to localize the gestational sac and to do laparoscopy to determine necessity for any future intervention. Many messages can be used from this patient to improve our dealing with such significant condition.

Keywords: corneal pregnancy, laparoscopy, colposcopy, Saudi Arabia

INTRODUCTION AND LITERATURE REVIEW

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. (5) resulting in massive haemorrhage due to high vascularity in this region through the branches of the uterine and ovarian arteries. (6) leading to a higher mortality rate. (7) In very rare circumstances, cornual pregnancies can result in a viable foetus. (8) This type of pregnancy has traditionally been treated via laparotomy with cornual excision or hysterectomy. (9) Various laparoscopic techniques have been subsequently described to be safe and effective, with more rapid postoperative recovery. Methods include laparoscopic salpingostomy and cornual resection with or without the endoloop technique. Unilateral ectopic multiple pregnancies are a very rare condition. Risk factors associated with the higher incidence of interstitial ectopic pregnancy include previous ectopic pregnancy or salpingectomy, previous pelvic inflammatory disease, in vitro fertilisation and ovulation induction and uterine anomalies.(10) In recent years, owing to advances in sonography, the diagnosis of cornual ectopic pregnancy is often made earlier and with precision regarding measurements and base dimensions. In the case of an early and asymptomatic ectopic gestation, methotrexate given either intramuscularly or intramometrally has been shown to be an effective treatment.(11) In cases not amenable to medical management, the feasibility of conservative surgical repair of a cornual pregnancy has also been reported during open surgery.(12,13) There has been a report of a unilateral triplet ectopic pregnancy reported after in vitro fertilisation and embryo transfer (two at interstitial and one at ampullary location), which failed medical management and required laparotomy, and removal of the tube and the cornual part of the uterus on the affected side.(14) Laparoscopy has proven to have several advantages over laparotomy, such as shorter hospital stay, faster recovery and decreased health service costs.(15) In recent years, there have been several reports of laparoscopic management of cornual gestations describing different techniques. Hill et al (16) were the first to describe the endoloop technique in a patient who presented at 10 weeks gestation with an unruptured cornual pregnancy. They performed a salpingostomy by placing an endoloop (Ethicon) around the cornua and then successfully evacuated the pregnancy using unipolar current to incise over the pregnancy
while tightening the endoloop. Subsequently, there have been further reports describing the technique of laparoscopic cornual excision to manage ruptured as well as unruptured interstitial pregnancies. (17)

This case is presented because of its rarity and there were a dilemma in the diagnosis and we successes to an achieved satisfactory outcome.

CASE REPORT:

Herewith we presented 30 years old female, known case of hypothyroidism presented to the emergency unit with vaginal bleeding and vomiting with decreased level of consciousness. She was hypotensive and restless. She gave birth 30 days ago by caesarean section and she had vaginal bleeding twice since then, other than this time once after delivery and 10 days after. She was discovered atrial septal defect- secundum (ASD ii) accidentally while she was investigated for right side of the body weakness. She underwent TTE and TEE 12/12/2016 showed ASD Atenable for device closure. She was admitted electively on 07/01/2017 through paediatric cardiology as SECUNDOM ASD for device closure. She denied chest pain, shortness of breath with exertion, orthopnoea, nor palpitation or syncpe. She gave birth 30 days ago by caesarean section and she had vaginal bleeding twice since then, other than this time once after delivery and 10 days after. She had two deliveries; the first was spontaneous vaginal delivery with unremarkable course, the second was ended by caesarean section on fully dilated cervix 5 weeks ago. She is medically free a part of laparoscopic cholecystectomy. There was a history of significant treated previous pelvic inflammatory disease but she denied any other risk factors like in vitro fertilisation and ovulation induction and uterine anomalies, or previous ectopic. Trans abdominal ultrasonography showed emptying uterus, 10 cm size and no abnormality detected. Speculum examination showed blood clots and normal cervix. Then the patient discovered to be pregnant and developed mild vaginal Bleeding (initial Bhcg: 4203). Ultrasound findings showed retroverted uterus 91x51x56mm, thickened endometrium =25mm and no obvious intrauterine pregnancy seen. Corneal pregnancy seen in right uterine corneal with single viable fetus CRL 39mm =6 wks +/-1 wk. and confirmed by magnetic resonance imaging (MRI). She discussed at multidisciplinary level and decided to offer misotexate (MTX). She received MTX two doses with no response. Post Methotrexate injection, her BHCG is increasing. Surgical intervention was decided. She underwent hysterectomy evaluation of pregnancy and Laparoscopy. The finding of the diagnostic hysteroscopy was found; left ostia seen and right osteta not see and gestational sac was seen on the right ostia were dilatation and curettage (D&C) was done. The diagnostic laparoscopy revealed that both cornea looks normal and no mass or bulging seen. Uterine cavity was visualized. Left ostia was seen. Right ostia not seen and there was part of gestational sac coming through the right ostia. Then evacuation and curettage was done obtaining fair amount of tissue, which sent for histopathology. No obvious tissue seen in uterine cavity. BHCG dropping very nicely from 13326 pre surgery to 4814 next day after surgery to 245 on 29-1 17 to 60 on 2-2 17. The clinical course of the disease postoperatively and outcome were satisfactory. Many messages can be used from this patient to improve our dealing with such significant condition.

Outcome and follow-up

The patient recovered well and was discharged well postoperatively 7 days later. The β-HCG 1 next day after surgery week after the surgery had dropped to 4814 IU/L and fell further to 245 IU/L 3 weeks postoperatively. Intraoperatively, the other cornea appeared normal and there was no sign of thinning.

DISCUSSION:

There should be a higher index of suspicion particularly for patients with risk factors as cornual pregnancies are associated with a higher risk of shock and haemoperitoneum as well as higher risk of maternal mortality due to delayed diagnosis and high vascularity of the myometrium. (18) Cornual pregnancy often poses a diagnostic and therapeutic challenge, with a significant risk for morbidity and mortality. The laparoscopy was played a golden role in management of this case, although require good laparoscopic suturing skills, which the general gynaecologist may not have. The method was employed has the advantage of not requiring any additional interventions hence it can potentially have wider acceptability. Many methods have also been described for laparoscopic resection of the cornual pregnancy. Cucinella et al (19) have described placing a temporary purse-string suture at the base of the
cornual pregnancy, followed by resection of the cornual mass and suturing to reconstruct the myometrium over the cornua. Zou et al. have described bipolar coagulation at the base of the cornual mass followed by resection and reconstruction. (20) Less extensive laparoscopic procedures have been described for small cornual pregnancies by evacuation through a 1 cm salpingostomy, using electrocoagulation for achieving haemostasis. (21) Tulandi et al. later confirmed that conservative laparoscopic surgery could be used successfully for larger cornual pregnancies as well. (16) In their series, one patient with a cornual gestation measuring 3.5 cm underwent a laparoscopic salpingostomy.

It is important that several important issues associated with cornual excision must be addressed, including hemorrhage, chronic ectopic pregnancy, recurrent cornual pregnancy, and the care of future pregnancies. Expeditious laparotomy after initial resuscitation remains the mainstay in many of such cases. The same principle applies if uncontrollable hemorrhage is encountered during laparoscopic mini-cornual excision. However, several measures can be used preemptively to minimize this possibility, such as vasopressin and bipolar cautery in this case, and the use of endoloops (16, 22, 23) prior to manipulation of the cornual pregnancy, as we did in this case. The potential for chronic ectopic pregnancy due to inadequate removal of the ectopic gestation is a rare but real concern. Recurrent cornual pregnancy remains a risk, similar to any surgical treatment for an ectopic gestation at any site. With regards to the care of future pregnancies, all patients should be carefully counseled on the importance of early presentation with future pregnancies for complete evaluation, primarily to rule out a recurrent cornual or ectopic pregnancy, and also to establish reliable dates and timely delivery plans. However, at this time, close monitoring of future pregnancies, with a planned cesarean delivery at term or upon failure of tocolytics therapy for preterm labor will have better outcome.

**Recommendation:** We recommend that every cornual pregnancy confirmed by translational ultrasound or MRI to perform hysteroscopy to localize the gestational sac and to do laparoscopy to determine nesicty for any future intervention.

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**REFERENCES**


