



## International Journal of Case Reports (ISSN:2572-8776)



### A case study of ruptured cornual ectopic with successful outcome in subsequent pregnancy

Snigdha Kumari<sup>1</sup> MS,DNB, Bharti Joshi MD<sup>1\*</sup>, DNB, Rashmi Bagga MD<sup>2</sup>, Jasvinder Kalra<sup>2</sup> MD, Pradip Kumar Saha<sup>3</sup>, MD

<sup>1</sup>Assistant professor <sup>2</sup>Professor <sup>3</sup>Additional professor

Department of Obstetrics & Gynaecology, Post Graduate Institute of Medical Education & Research (PGIMER), Sector 12, Chandigarh, India.

#### ABSTRACT

Cornual pregnancy is a fearful condition with dreadful complications. Due to rarity and late presentation, it poses diagnostic and therapeutic challenges. There is no consensus on treatment strategies till date and risk of rupture after repair in subsequent pregnancy always remains a major concern. We hereby discuss a case of 27 year female who presented with ruptured cornual ectopic pregnancy, underwent cornual wedge resection with repair and had subsequent pregnancy with a successful outcome.

**Keywords:** Cornual ectopic, interstitial pregnancy, cornual wedge resection

#### \*Correspondence to Author:

Dr Bharti Joshi

Department of Obstetrics & Gynaecology, 3rd floor, Gynae Office, PGIMER, Chandigarh, India.

+91-9915166210, 7087006331

#### How to cite this article:

Snigdha Kumari, MS,DNB, Bharti Joshi MD, DNB, Rashmi Bagga MD, Jasvinder Kalra, MD, Pradip Kumar Saha, MD. A case study of ruptured cornual ectopic with successful outcome in subsequent pregnancy. International Journal of Case Reports, 2021; 5:224.

 eSciPub  
eSciPub LLC, Houston, TX USA.  
Website: <http://escipub.com/>

## Introduction

Cornual pregnancies account for approximately 2-4% of all ectopic pregnancies with a mortality rate of 2-2.5%<sup>[1]</sup>. Among all ectopic pregnancies, cornual pregnancies are known to be associated with risk of massive and uncontrollable haemorrhage following rupture. This massive haemorrhage occurs due to the rich local vascularity through the branches of ovarian and uterine arteries at gestation beyond 12 weeks.

The term "cornu" means angle or horn of a uterus. Cornual pregnancy can be subclassified into interstitial and angular pregnancy. Implantation in cases of interstitial and angular pregnancies takes place lateral and medial to the round ligament respectively<sup>[2]</sup>. In true interstitial ectopic pregnancy, implantation occurs in the intramural or, interstitial part of the fallopian tube. The term angular pregnancy is reserved for pregnancies in one of the angles of the uterus and cornual ectopic pregnancy is used to notify pregnancy in uterine horn of bicornuate, unicornuate or, septate uterus<sup>[3]</sup>.

There are case reports and series of cornual ectopic pregnancies without uniform consensus on management & among these only few mention follow up of the patient with their future obstetric outcome. Herein, we report a case of spontaneous ruptured cornual ectopic pregnancy managed by cornual wedge resection and her successful outcome in subsequent pregnancy.

## Case history

27-year-old third gravida was referred to our institute at 15 weeks period of gestation with ruptured ectopic pregnancy. Patient had pain abdomen for 10 hours and presented to gynae emergency with same from where she was referred to our institute with the doubt of ruptured cornual ectopic pregnancy.

Her first pregnancy 4-years back had been uncomplicated till she experienced preterm prelabour rupture of membranes at 35 weeks period of gestation and delivered vaginally after induction. She had complete miscarriage in her second pregnancy. The index pregnancy was a spontaneous conception. Patient was sure of her last menstrual period however; first trimester ul-

trasound was not done.

On admission, she had a pulse rate of 126 beats per minute with severe pallor and distended abdomen. Abdominal tenderness was present on palpation with fundal height of 16 weeks. Vaginal examination revealed cervical motion tenderness and fullness in the fornices. Her haemoglobin was 5.4 gm/dl with platelet count of 1.1 lacs. Ultrasound in our department revealed massive intraabdominal collection involving hepatorenal pouch of Morrison and both paracolic gutters with single live fetus seen in the periphery of the uterus on the right with thin myometrium surrounding it on one side. Differential possibilities of ruptured cornual ectopic pregnancy and ruptured rudimentary horn pregnancy were entertained. Patient and her husband were counselled regarding the differentials and immediate need for exploratory laparotomy and complications associated with same. They were also counselled regarding the need for and complications associated with multiple blood transfusion. Patient was wheeled in the operation theatre after arranging adequate blood and blood products.

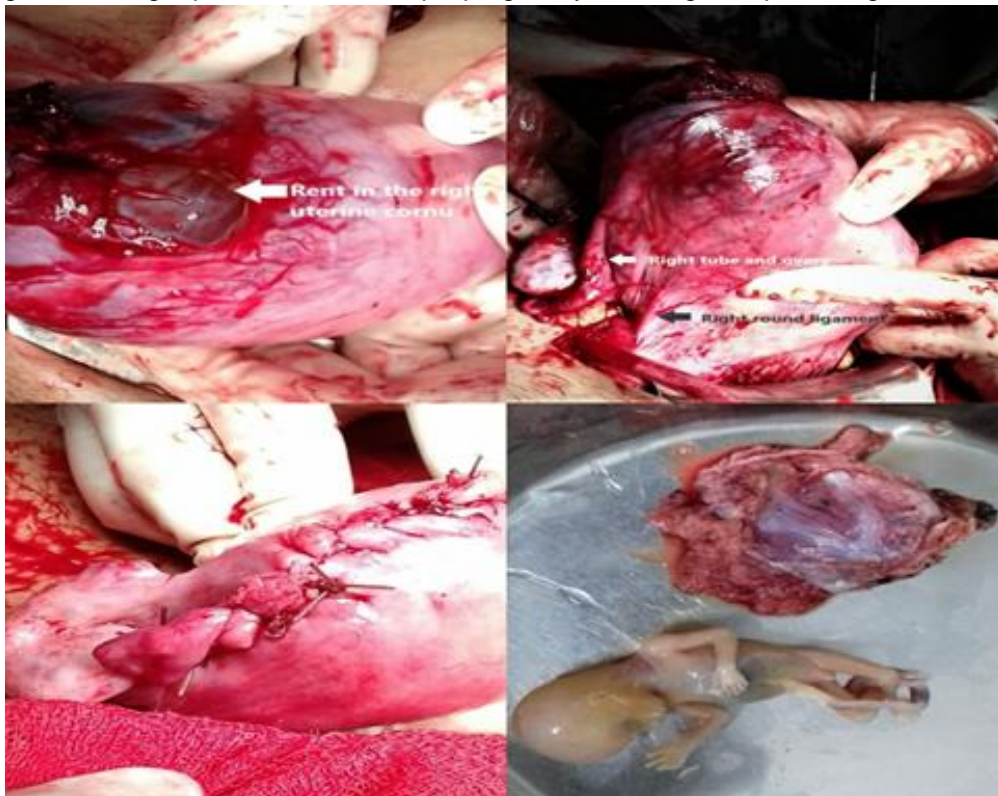
Abdomen was opened with low transverse incision. Hemoperitoneum of 1.5-2 litres was encountered. Uterus was delivered outside through the incision. Ongoing bleeding was seen from right cornua of the uterus along with a rent of around 2x2 cm and thinned out surrounding myometrium involving 10x6 cm area with normal anatomy of right fallopian tube and ovary [fig 1a and b]. Fetus and placenta with membranes were delivered from the site of rupture [fig 2]. Right sided round ligament clamped, cut and ligated. Excess of thinned out myometrium was excised and cornual repair was done in multiple layers along with ligation of right fallopian tube [fig 3]. Haemostasis was secured and intraperitoneal drain was kept. Following which abdomen was closed in layers after taking mops and instruments count. She received 3 units of packed red blood cells. Postoperatively patient remained stable throughout her stay in hospital. She was discharged on day 4 after receiving depot medroxyprogesterone acetate with the advice to

follow up in our out-patient department. She followed up on day 8 post-operative for stitch removal. She was counselled for effective contraception to delay pregnancy for at least 1 year and for early booking in next pregnancy.

She conceived after 2 years of undergoing laparotomy and visited our antenatal out-patient department at 6 weeks of gestation for booking. She followed up regularly as advised and was critically analysed at each visit for any symptoms and signs suggestive of uterine rupture. All 3

trimesters went uneventful. Termination of pregnancy in the form of elective caesarean section was planned at 37 completed weeks after administration of antenatal steroids. However, patient went into spontaneous labour at 36 weeks 2 days of gestation and presented in our emergency in advanced labour. She delivered 2.86 kgs girl child with the Apgar score of 8,9 at 1 and 5 minutes. Both mother and baby remained stable in the postpartum period and discharged in satisfactory condition.

**Figure 1** Figure showing ruptured cornual ectopic pregnancy following its repair along with fetus & placenta.



## Discussion

Cornual pregnancies are often hazardous due to its rarity and late presentation. Interstitial portion of tube with surrounding myometrium is often distensible, vascular and pregnancy at this site may get unnoticed for long. There can be life threatening haemorrhage if cornual pregnancy ruptures before diagnosis [4-6]. Clinicians should be aware of the diagnostic and therapeutic challenges and keep high index of suspicion for such cases. The previous history of ectopic pregnancy, any tubal surgery, pelvic inflammatory disease or any assisted reproductive techniques are the risk factors for cornual pregnancy.

Ultrasonography showing eccentric location of the gestational sac within 1cm of the lateral edge of the uterine cavity, an empty uterus and very thin myometrium surrounding the sac should flag the suspicion of cornual pregnancy [7]. Mayer et al, described the challenges faced in differentiating the intrauterine pregnancy from the pregnancy located at the angle or cornua of the uterus [8]. In index case there was no predisposing factor and it got unnoticed till 15 weeks of gestation. Suspicion of ruptured cornual pregnancy was raised on ultrasound when she complained of severe abdominal pain and went into haemorrhagic shock.

The management strategies of cornual pregnancies are generally based upon various clinical factors like gestation at time of presentation, location of sac within the cornua, surrounding myometrial thickness and patient's hemodynamics. There is no agreement on the effective management, follow up and future conception. Conservative modalities include direct or systemic methotrexate injection into unruptured sac. The choice of surgical intervention i.e cornual wedge resection and repair or hysterectomy has to be as per patient's wishes, desire for future conception and gynaecologist preference<sup>[9]</sup>. Surgical repair of cornual sac can be performed laparoscopically or through open approach depending upon the hemodynamic status of the patient and the surgical expertise<sup>[10-12]</sup>.

A detailed discussion and an appropriate counselling is needed with the patient and spouse regarding risk of future pregnancy, compliance for follow up and mode of delivery. Few authors have advocated against future conception due to the risk of uterine rupture in next pregnancy. At present, there is no consensus on the optimal treatment and majority of the literature has discussed about short term surgical outcome. Cornual wedge resection in which sac and surrounding myometrium is removed causes scarring of the uterus and eventually the cause of uterine rupture. While reviewing, we have come across a handful of cases describing subsequent pregnancy outcome after cornual wedge resection. Hoyos et al, reviewed a cohort of eighty three women of interstitial pregnancies, sixty three of them underwent cornual wedge resection from which nineteen had subsequent pregnancies. Of them eleven pregnancies were carried till term and four delivered vaginally<sup>[13]</sup>. Successful outcome in subsequent pregnancy observed by many authors could not give anticipatory guidance regarding mode of delivery and few had justified the need of caesarean based on the data extrapolated from the myomectomy literature<sup>[14-17]</sup>. We emphasize on the meticulous multilayer repair of uterine cornu with braided, absorbable and coated sutures (polyglactin) which may reduce the chance of uterine rupture in

future conception. The successful outcome in our case may be attributed to the long interpregnancy interval, repair technique and the inherent ability of the myometrium to remodel and undergo physiological changes as seen in pregnancy, after myomectomy or caesarean repair. However, due to the lack of concrete evidence, theoretical risk of rupture still remains high and close follow up during pregnancy and labour is required.

To conclude, the successful outcome in present case may give a ray of hope for the patients with ruptured cornual ectopic for their subsequent pregnancies but still more prudent literature is needed to ascertain the optimal management and mode of delivery.

**Acknowledgement -Nil**

## References

- [1] Tulandi T, Al-Jaroudi D. Interstitial pregnancy: results generated from the Society of Reproductive Surgeons Registry. *Obstet Gynecol.* 2004; 103(1):47–50.
- [2] Ross, R., Lindheim, S. R., Olive, D. L., and Pritts, E. A. (2006). Cornual gestation: a systematic literature review and two case reports of a novel treatment regimen. *Journal of Minimally Invasive Gynecology*, 13(1), 74-78.
- [3] Rizk, B., Holliday, C. P., and Abuzeid, M. (2013). Challenges in the diagnosis and management of interstitial and cornual ectopic pregnancies. *Middle East Fertility Society Journal*, 18(4), 235-240.
- [4] Moawad NS, Mahajan ST, Moniz MH, Taylor SE, Hurd WW. Current diagnosis and treatment of interstitial pregnancy. *Am J Obstet Gynecol.* 2010; 202(1):15–29. doi: 10.1016/j.ajog.2009.07.054.
- [5] Tulandi T, Monton L. Conservative surgical management of interstitial pregnancy. *Fertil Steril.* 1990;53(3):581
- [6] Fabre-Gray A, Read M, Wardle P, James M. Recurrent cornual pregnancy, successfully treated with methotrexate, following a ruptured pregnancy in the contralateral cornu. *J Obstet Gynaecol.* 2014;34(1):85. doi: 10.3109/01443615.2013.819844.
- [7] Timor-Tritsch IE, Monteagudo A, Matera C, Veit CR. Sonographic evolution of cornual pregnancies treated without surgery. *Obstet Gynecol.* 1992;79(6):1044–9.
- [8] R. B. Mayer, C. Yaman, T. Ebner, O. Shebl, M. Sommergruber, J. Hartl et al., "Ectopic pregnancies with unusual location and an angular

- pregnancy: report of eight cases,” *Wiener klinische Wochenschrift*, vol. 124, no. 5-6, pp. 193–197, 2012.
- [9] N. S. Moawad, S. T. Mahajan, M. H. Moniz, S. E. Taylor, and W. W. Hurd, “Current diagnosis and treatment of interstitial pregnancy,” *American Journal of Obstetrics and Gynecology*, vol. 202, no. 1, pp. 15–29, 2010.
- [10] S. Ng, S. Hamontri, I. Chua, B. Chern, and A. Siow, “Laparoscopic management of 53 cases of cornual ectopic pregnancy,” *Fertility and Sterility*, vol. 92, no. 2, pp. 448–452, 2009.
- [11] R. MacRae, O. Olowu, M. I. Rizzuto, and F. Odejinmi, “Diagnosis and laparoscopic management of 11 consecutive cases of cornual ectopic pregnancy,” *Archives of Gynecology and Obstetrics*, vol. 280, no. 1, pp. 59–64, 2009.
- [12] D. Soriano, D. Vicus, R. Mashiach, E. Schiff, D. Seidman, and M. Goldenberg, “Laparoscopic treatment of cornual pregnancy: a series of 20 consecutive cases,” *Fertility and Sterility*, vol. 90, no. 3, pp. 839–843, 2008.
- [13] Hoyos LR, Vilchez G, Allsworth JE, Malik M, Rodriguez-Kovacs J, Adekola H, Awonuga AO. Outcomes in subsequent pregnancies after wedge resection for interstitial ectopic pregnancy: a retrospective cohort study. *J Matern Fetal Neonatal Med*. 2019 Jul;32(14)
- [14] Tulandi T, Al-Jaroudi D. Interstitial pregnancy: results generated from the Society of Reproductive Surgeons Registry. *Obstet Gynecol*. 2004;103(1):47–50.
- [15] Ng S, Hamontri S, Chua I, et al. Laparoscopic management of 53 cases of cornual ectopic pregnancy. *Fertil Steril*. 2009;92(2):448–452.
- [16] Douysset X, Verspyck E, Diguët A, et al. Interstitial pregnancy: experience at Rouen’s hospital. *Gynecol Obstet Fertil*. 2014;42(4):216–221.
- [17] Cunningham FG, Leveno KJ, Bloom SL, et al. *Williams obstetrics*. New York (NY): McGrawHill Medical; 2014. Available from: <http://accessmedicine.mhmedical.com/book.aspx?bookid¼1057>.

