

# A ruptured cornual pregnancy successfully managed in a patient with a history of oophorectomy and salpingectomy: A rare case report

Marah Mansour<sup>1</sup>, Amr Hamza<sup>2</sup>, AlHomam AlMarzook<sup>3</sup>, Ilda kanbour<sup>4</sup>, Tamim Alsuliman<sup>5</sup>, and Bashar Kurdi<sup>6</sup>

<sup>1</sup>Faculty of Medicine, Tartous University

<sup>2</sup>University of Aleppo Faculty of Medicine

<sup>3</sup>Ibn Al-Nafees Hospital

<sup>4</sup>Maternity Hospital

<sup>5</sup>Saint-Antoine Hospital, AP-HP, Sorbonne University

<sup>6</sup>Maternity Hospital

June 30, 2021

## Abstract

Cornual pregnancy is a rare condition that accounts for approximately 2-4% of ectopic pregnancies worldwide. Herein, we report an unstable case of a 32-year-old female with a history of oophorectomy, and salpingectomy who was admitted for a ruptured cornual pregnancy in the left cornu which was successfully managed by laparotomy.

**A ruptured cornual pregnancy successfully managed in a patient with a history of oophorectomy and salpingectomy: A rare case report**

**A ruptured cornual pregnancy successfully managed in a patient with a history of oophorectomy, and salpingectomy: A rare case report**

**Key clinical message** Salpingectomy could not eliminate the potential of ipsilateral ectopic pregnancy. Therefore, an early precise follow-up of each pregnant with a history of salpingectomy is recommended to avoid potentially fatal consequences.

## Abstract

Cornual pregnancy is a rare condition that accounts for approximately 2-4% of ectopic pregnancies worldwide. Herein, we report an unstable case of a 32-year-old female with a history of oophorectomy, and salpingectomy who was admitted for a ruptured cornual pregnancy in the left cornu which was successfully managed by laparotomy.

**Keywords:** Cornual pregnancy; Ectopic pregnancy; Pfannenstiel incision; exploratory laparotomy

**A ruptured cornual pregnancy successfully managed in a patient with a history of oophorectomy, and salpingectomy: A rare case report**

## Introduction

Ectopic pregnancy is a common and potentially hazardous condition in which a viable ovum implants somewhere other than the uterine corpus [1]. Cornual pregnancy (CP) is considered the most troublesome sort

of ectopic pregnancy due to low affectability, the explicitness of side effects, and imaging analyses [2]. CP is an extremely rare entity in the general population, particularly in spontaneous pregnancies, and accounts for 2-4% of ectopic pregnancies [1, 2]. The exemplary triad of CP—stomach agony, amenorrhea, and vaginal dying—happens in under 40% of patients [2]. Transvaginal ultrasound and  $\beta$ -HCG are imperative for the early diagnosis of CP [3]. Ultrasonography should be used to establish CP management (particularly three-dimensional ultrasonography). According to the size and viability of the pregnancy, the procedure should be planned [4]. Laparotomy is typically used to manage CP [3]. Adequate suturing of uterine cornua could preclude the risk of rupture during upcoming pregnancies. Decreased blood loss during and after the operation is a priority [4]. Aside from surgical treatment, CP can also be managed conservatively by (systemic or local) methotrexate injections. Methotrexate therapy is typically ineffective in advanced cornual pregnancies with elevated  $\beta$ -HCG levels [1, 3].

## Case presentation

A 32-year-old female, gravida 5, para 4, aborta 1, presented to the Department of Obstetrics and Gynecology with severe lower abdominal pain that began approximately one day ago and had progressively worsened. The last menstrual period (LMP) was 40 days ago with a medical history of left Fallopian tube pregnancy a year ago, which was successfully managed by oophorectomy and salpingectomy of the left side. Previous pregnancies resulted in uncomplicated spontaneous vaginal deliveries. No history of tobacco, alcohol, allergies, or medications was reported. The vital signs were measured (Blood pressure: 100/60 mm Hg, pulse rate: 110/min, and BMI: 21 kg/m<sup>2</sup>). Laboratory findings were as following: Hemoglobin 10.3 g/DL, Hematocrit: 28.1%, Leukocyte count: 20.5/ $\mu$ m, Neutrophils: 90%, Platelets: 357 / $\mu$ m,  $\beta$ -HCG: 7503 IU/L). Vaginal examination revealed a closed cervix with no vaginal bleeding, but tenderness to palpation and motion. Ultrasound demonstrated an empty uterus with decidual reaction, and a visible gestational sac located in the left cornu, the 5th-weeks' gestational sac in size (Fig.1), with a moderate amount of peritoneal fluid in Douglas Pouch extends to Morris pouch. An emergency exploratory laparotomy was performed via a Pfannenstiel incision. A ruptured gestational sac located in the left cornu was found, complicated by severe bleeding filling the peritoneal cavity which was suctioned (Fig.2 A, B). The products of conception, gestational sac, and left cornu were successfully eradicated (Fig.3 A, B), (Fig.4). The Z Z drainage has been placed in Douglas's pouch and removed one week after surgery. One unit of blood was transfused during surgery. Pathological findings confirmed the diagnosis of ectopic pregnancy (Fig.4). The postoperative period was unremarkable; the patient was discharged 24 h after the surgery in a hemodynamically stable state. One year of follow-up, there were no long-term complications. However, the patient uses oral contraceptives to prevent pregnancy.

## Discussion and conclusion

CP is considered a rare entity that represents 2-4% of all tubal pregnancies [5]. It could be a life-threatening condition as it tends to rupture in approximately 48.6% of cases, leading to potential consequences on the fetus and the pregnant [6]. Risk factors of CP include: previous ectopic pregnancies, assisted reproductive techniques, tubal anomaly, proximal intra-tubal adhesions, and rarely ipsilateral salpingectomy [3, 5]. The symptoms usually occur 9th to 12th weeks after the LMP due to myometrial stretchability. These include discomfort, abdominal pain, and abnormal vaginal bleeding [7]. Despite its complexity, early diagnosis of CP poses the cornerstone of lowering maternal mortality. Clinical features increased  $\beta$ -HCG, and transvaginal ultrasonography is considered typical diagnostic modalities [4]. However, ultrasonography could distinguish the gestational sac in uterine cornua with increased vascularity (Fig.1), [8]. The literature reports a wide variety of treatment approaches. Previous interventions commonly included hysterectomy or cornual resection via laparotomy. However, more conservative laparoscopic approaches have been implemented recently, including cornual resection, cornuostomy, and salpingectomy [5, 9]. Of interest, the potential persistent ectopic pregnancy has augmented after the conservative surgical procedures. However, rupture of CP could stimulate serious intra-abdominal bleeding resulting in hypovolemic shock; therefore, laparotomy could be preferred in hemodynamically unstable patients [4]. Besides surgical treatment, CP can also be managed conservatively by (systemic or local) methotrexate injections. However, the latter appeared to be more

efficient [6]. The convenient decline in  $\beta$ -HCG blood level indicates successful management of a CP [10]. Habana et al. discussed the outcomes of females undergoing surgery versus medical treatment, and the results revealed the advantages of surgery in terms of miscarriage (13% versus 50%,  $p < 0.05$ ) and live birth rate (60.9% versus 50%) [7, 9]. Spontaneous CP after ipsilateral salpingectomy is a very rare entity in which diagnosis is usually delayed. In conclusion, salpingectomy could not eliminate the potential of ipsilateral ectopic pregnancy. Therefore, an early well-organized follow-up of each pregnant with a history of salpingectomy is recommended to avoid potentially fatal consequences.

### Author's contribution

Marah Mansour: design of study, data collection, data interpretation and analysis, drafting, critical revision, approval of final manuscript.

Amr Hamza: data collection, data interpretation and analysis, critical revision, drafting, approval of final manuscript.

AlHomam AlMarzook: data interpretation and analysis, critical revision, drafting, approval of final manuscript. Ilda moafak kanbour: data collecting, critical revision, approval of final manuscript.

Tamim Alsuliman: drafting, critical revision, approval of final manuscript.

Bashar kurdi: The Supervisor, patient care, drafting, critical revision, approval of final manuscript

### References

1. Oral S, Akpak YK, Karaca N, Babacan A, Savan K. Cornual heterotopic pregnancy after bilateral salpingectomy and uterine septum resection resulting in term delivery of a healthy infant. *Case Rep Obstet Gynecol.* 2014;2014:157030. doi: 10.1155/2014/157030. Epub 2014 Nov 5. PMID: 25431713; PMCID: PMC4238269.
2. Dagar M, Srivastava M, Ganguli I, Bhardwaj P, Sharma N, Chawla D. Interstitial and Cornual Ectopic Pregnancy: Conservative Surgical and Medical Management. *J Obstet Gynaecol India.* 2018 Dec;68(6):471-476. doi: 10.1007/s13224-017-1078-0. Epub 2017 Nov 28. PMID: 30416274; PMCID: PMC6207538.
3. Maruthini, D., & Sharma, V. (2013). A case of live birth after uterine reconstruction for recurrent cornual ectopic pregnancy following IVF treatment. *Case reports in obstetrics and gynecology*, 2013.
4. Pramayadi, C. T., Bramantyo, A., & Gunardi, E. R. (2018). Successful procedure in conservative management of interstitial (Cornual) ectopic pregnancy. *Gynecology and minimally invasive therapy*, 7(4), 172.
5. Tulandi T, Al-Jaroudi D. Interstitial pregnancy: Results generated from the society of reproductive surgeons registry. *Obstet Gynecol.* 2004;103:47–50.
6. Habana A, Dokras A, Giraldo JL, Jones EE: Cornual heterotopic pregnancy: contemporary management options. *Am J Obstet Gynecol.* 2000, 182: 1264-1270. 10.1067/mob.2000.103620.
7. Jourdain O, Fontanges M, Schiano A, Rauch F, Gonnet JM. Prise en charge des autres ectopies annexielles (cornuale, interstitielle, angulaire, ovarienne) [Management of other ectopic pregnancies (cornual, interstitial, angular, ovarian)]. *J Gynecol Obstet Biol Reprod (Paris).* 2003 Nov;32(7 Suppl):S93-100.
8. Advincula AP, Senapati S (2004) Interstitial pregnancy. *Fertil Steril* 82(6):. 1660–1661.
9. Moawad NS, Mahajan ST, Moniz MH, Taylor SE, Hurd WW. Current diagnosis and treatment of interstitial pregnancy. *Am J Obstet Gynecol.* 2010;202:15–29.
10. Zalel Y, Caspi B, Insler V. Expectant management of interstitial pregnancy. *Ultrasound Obstet Gynecol.* 1994;4:238–240.

## Figure explanations

Fig.1: Transvaginal two-dimensional ultrasonography scan in transverse view showing left interstitial ectopic pregnancy

Fig.2 (A, B): A view at the beginning of laparotomy findings showing a ruptured left uterine cornual ectopic pregnancy with showing the abdomen full of clots.

Fig3. (A, B): (A) Performing laparotomy cornual excisions. (B) The final result of surgery interrupted sutures.

Fig.4: A view showing the resection of the corneal (yellow arrow) with gestational sac (red arrow).



