Gynaecology & Obstetrics Case Report
ISSN: 2471-8165

Open access Case Report

A Case Report of a Cervical Ectopic Pregnancy with a Positive Fetal Heartbeat

Anwar Hammad[1], Sami Smerat[2*]

[1]*Department of Gynecology, Legal Midwife, Istishari Arab Hospital, Ramallah, Palestine*
[2]*Department of Radiology, Istishari Arab Hospital, Ramallah, Palestine*

ABSTRACT

Background: Cervical Pregnancy (CP) is a rare and potentially life-threatening form of ectopic pregnancy where implantation occurs within the cervical canal. It accounts for less than 1% of all ectopic pregnancies and carries a high risk of severe hemorrhage and hysterectomy. Assisted Reproductive Technologies (ART), including *In Vitro* fertilization (IVF), are recognized risk factors for CP. Early diagnosis and appropriate management are critical to minimizing complications and preserving fertility.

Case Presentation: We report the case of a 35-year-old woman (G4P1A2) with a history of cesarean section and two previous Dilatations and Curettage (D&C) procedures. The patient conceived through IVF with the transfer of two embryos. Follow-up ultrasound revealed a non-viable intrauterine gestational sac and a viable cervical pregnancy with positive fetal heart. After counseling, elective termination was planned. The patient underwent hysteroscopy and D&C, performed with ultrasound guidance. The procedure was completed successfully with minimal blood loss (40 mL) and no perioperative complications. She was discharged home in stable condition on the same day.

Conclusion: This case highlights the importance of early detection of CP, particularly in patients undergoing ART. It demonstrates that ultrasound-guided hysteroscopy-assisted evacuation can be an effective and fertility-preserving treatment. Conservative management tailored to individual patient factors can reduce morbidity and avoid the need for radical interventions such as hysterectomy.

Keywords: Cervical pregnancy; Ectopic pregnancy; *In vitro* fertilization, Hysteroscopy, Dilation and curettage, Fertility preservation

Abbreviations: CP: Cervical Pregnancy; IVF: *In Vitro* Fertilization; D&C: Dilatations and Curettage; ART: Assisted Reproductive Technologies

INTRODUCTION

Cervical Pregnancy is a rare form of ectopic pregnancy, accounting for about 0.01% of all pregnancies and 1% of all ectopic pregnancies [1]. The incidence rate is approximately 1:1,000 to 1:18,000 pregnancies. It is characterized as a mall implantation of the embryo, which occurs within the cervical canal [1,2]. According to the previous studies, the previous cesarean section scar, D&C procedures, ART, the number of embryos transferred, Pelvic Inflammatory Disease (PID), previous tubal surgeries, and intrauterine fibroids are the risk factors that are associated with increased risk of CP [3]. The CP is a serious cause of morbidity and mortality, as a type of ectopic pregnancy, which is classified as the main cause of maternal morbidity and mortality in the first trimester of pregnancy [4]. The cervix has highly vascularized and resistance to uterotonics, which carries a significant risk of hemorrhage, hysterectomy, and death [1].

Received:	23-Jul-2025	**Manuscript No:**	IPGOCR-25-22756
Editor assigned:	25-Jul-2025	**PreQC No:**	IPGOCR-25-22756 (PQ)
Reviewed:	16-Aug-2025	**QC No:**	IPGOCR-25-22756
Revised:	20-Aug-2025	**Manuscript No:**	IPGOCR-25-22756 (R)
Published:	24-Aug-2025	**DOI:**	10.36648/2471-8165.11.3.76

Corresponding author Smerat S, Department of Radiology, Istishari Arab Hospital, Ramallah, Palestine, E-mail sami_sm2006@yahoo.com

Citation Hammad A, Smerat S. A Case Report of a Cervical Ectopic Pregnancy with a Positive Fetal Heartbeat. Gynecol Obstet Case Rep. (2025) 11:76.

According to previous studies, amenorrhea, abdominal pain, and vaginal bleeding are the main signs and symptoms of CP [5]. Early diagnosis of CP is significantly related to reducing the risks of complications [6]. However, diagnosing the CP is challenging, often *via* transvaginal ultrasound, serum beta-human chorionic gonadotropin (β-HCG) levels, and pelvic Magnetic Resonance Imaging (MRI). Approximately 70% of CP cases are diagnosed between the 5th and 8th weeks of pregnancy [7].

As a result of the increase in the infertility ratio worldwide, the application of IVF has increased as a treatment method for infertility. However, IVF is a risk factor for CP [7,8]. According to a previous study in China, the incidence of ectopic pregnancy after IVF ranges from 3.2% to 8.6%, which indicates a significantly higher risk compared to the natural spontaneous pregnancy risks of ectopic pregnancy. The study suggests that high gonadotropin doses and abnormal hormone levels may lead to abnormal embryo implantation during fresh embryo transfers [7].

Management and findings

The management and treatment of CP depend on the patient's case, associated with many factors as patient status, gestational age, (β-HCG) levels, and survival of the fetus. Surgical intervention, Curettage, and hysterectomy are traditional treatment option for the removing trophoblastic tissue [2]. Curettage preserves fertility and the possibility of future pregnancy compared to hysterectomy; however, it carries a risk of postoperative hemorrhage [9]. For most cases of CP with a gestational age of 20 weeks or more, hysterectomy is the definitive treatment ultimately [6]. Also, reduce the blood supply by cervical cerclage, transvaginal ligation of the cervical branches of uterine arteries [10].

There are nonsurgical methods as tamponade *via* a Foley catheter [11]. Intra-amniotic feticide involves ultrasound-guided injection of Potassium Chloride (KCl) or methotrexate into the amniotic fluid to induce fetal demise [1].

CASE PRESENTATION

A 35-year-old woman, Gravida 4 Para 1 Abortion 2 (G4P1A2), had a history of cesarean section due to breech presentation and conceived *via* IVF. She had undergone two D&C procedures due to missed miscarriages. The patient had no other significant medical history. She underwent *in vitro* fertilization embryo transfer, and two fresh embryos were transplanted on April 6, 2025. The expected delivery date was January 12, 2026. After the embryo transfer, the she was treated with dydrogesterone and progesterone. At the follow-up visit, a heterotopic pregnancy was diagnosed with both cervical and intrauterine gestational sacs. The first embryo had implanted intrauterinely, but no fetal heartbeat was observed. The second embryo was implanted intracervically, and a fetal heartbeat was detected on transvaginal ultrasound. Therefore, elective hysteroscopy and D&C operation were scheduled.

The patient was admitted at 9+3 weeks of gestation for pregnancy termination. The patient was in stable condition, fully oriented, with no complaints of pain or abnormal vaginal discharge or bleeding, and with stable vital signs. Her hematological indicators included a hemoglobin level of 12.08 g/dL, white blood cell count 7.09 × 10^3/μL, blood group A^+, and platelets 353.4 × 10^3/μL. The patient was reassessed by transvaginal ultrasound. According to the Royal College of Obstetricians and Gynecologists (RCOG) criteria, the diagnosis was based on the presence of the gestational sac below the level of the internal os, a barrel-shaped cervix, and blood flow around the gestational sac. Cervical pregnancy was confirmed with a positive fetal heartbeat, while the intrauterine gestational sac showed no cardiac activity.

The patient was prepared for surgery, in the operating theater, hysteroscopy and curettage were performed under general anesthesia, in the lithotomy position. A vaginal retractor was applied, and the cervix was identified. Suction and curettage of the endometrium were performed, then under ultrasound guidance, the products of conception were evacuated without complications, with an estimated blood loss of 40 mL. The patient was in stable condition in the recovery room, with stable vital signs and no vaginal bleeding observed. Following the operation, pain management medication was administered, and the patient was discharged home after an observation period of several hours (Figure 1).

Figure 1: Transvaginal ultrasound.

RESULTS AND DISCUSSION

CP is the implantation of an embryo in the cervical canal and is the rarest form of ectopic pregnancy [1]. CP represents a significant cause of maternal morbidity and mortality to the cervix's extensive vascularization and resistance to uterotonic agents, CP poses a considerable risk of hemorrhage, hysterectomy, and even death [12]. In this reported case, several risk factors were present, including IVF, previous cesarean section, and prior D&C. These factors have been consistently associated with an increased likelihood of abnormal embryo implantation in the cervical canal, as documented in previous literature [2,7]. A study in China found that the incidence of ectopic pregnancy after IVF ranges from 3.2% to 8.6%, higher than in natural pregnancies. The study suggests that high gonadotropin doses and abnormal hormone levels in IVF may cause abnormal embryo implantation [7].

Early diagnosis is crucial to avoid severe complications [6]. The use of transvaginal ultrasound in this case allowed for accurate localization of both intrauterine and cervical gestational sacs. The presence of a positive fetal heartbeat in the cervical sac indicated an advanced CP, which usually complicates management due to high vascularity and risk of bleeding.

Management strategies for CP vary and depend on factors such

as gestational age, hemodynamic stability, desire for fertility preservation [6]. Historically, hysterectomy was the mainstay treatment, but it sacrifices fertility [13]. Newer conservative approaches include systemic or local methotrexate, Potassium Chloride (KCl) injection, uterine artery embolization, and mechanical tamponade. However, these methods may adversely affect intrauterine pregnancies or carry long-term complications [14].

In this case, the patient underwent hysteroscopic evacuation and D&C under ultrasound guidance. This approach successfully removed the products of conception with minimal blood loss and preserved uterine integrity. Compared to other conservative methods, ultrasound-guided evacuation is effective in reducing hemorrhage risk while avoiding hysterectomy [10,11].

The decision to terminate both the intrauterine and cervical pregnancies aligns with clinical guidelines when fetal viability is not observed intrauterinely, and the risks of continuing a cervical pregnancy outweigh potential benefits. This case also highlights the importance of individualized treatment, especially in ART-conceived pregnancies where patients often strongly desire future fertility.

Overall, this case underscores the significance of early diagnosis, careful selection of management strategy, and the potential for conservative treatment approaches to minimize complications while preserving reproductive potential. The favorable outcome, with no perioperative complications or excessive bleeding, supports the use of ultrasound-guided hysteroscopic evacuation as a safe and effective option in similar cases.

CONCLUSION

In conclusion, this case underscores the significance of early diagnosis, careful selection of management strategy, and the potential for conservative treatment approaches to minimize complications while preserving reproductive potential. The favorable outcome, with no perioperative complications or excessive bleeding, supports the use of ultrasound-guided hysteroscopic evacuation as a safe and effective option in similar cases.

REFERENCES

1. Jasper B, Gremmo G, McKay R, Polanski L. (2025). Cervical ectopic pregnancy: An overview of the literature, emerging management strategies and case-based perspectives. OB-GYN. 35(8):234-238.
2. Fan Y, Du A, Zhang Y, Xiao N, Zhang Y, et al. (2022). Heterotopic cervical pregnancy: Case report and literature review. J Obstet Gynaecol Res. 48(5):1271–1278.
3. Michos G, Najdecki R, Valasoulis G, Daponte A, Mamopoulos A, et al. (2025). Post IVF heterotopic pregnancy with one in cervix and one in uterus. Successful delivery after termination of the cervical pregnancy with intraamniotic feticide. Int J Surg Case Rep. 127:110832.
4. Mullany K, Minneci M, Monjazeb RC, Coiado O. (2023). Overview of ectopic pregnancy diagnosis, management, and innovation. Womens Health (Lond). 19:17455057231160349.
5. Qayyum H, Wahab S. (2025). Frequency of common signs and symptoms of ectopic pregnancy. IJHR. 3(1):9-15.
6. Karthikeyan S, Shaunthini P. (2024). Cervical ectopic pregnancy with diagnostic challenges and conservative surgical management: A case report. JSAFOG. 16(5):561-563.
7. Wang Y, Chen L, Tao Y, Luo M. (2024). Risk factors of ectopic pregnancy after *in vitro* fertilization-embryo transfer in Chinese population: A meta-analysis. PLOS ONE. 19(1):e0296497.
8. Matorras R, Zallo A, Hernandez-Pailos R, Ferrando M, Quintana F, et al. (2020). Cervical pregnancy in assisted reproduction: an analysis of risk factors in 91,067 ongoing pregnancies. Reprod Biomed Online. 40(3):355-361.
9. Kamijo K, Ishida K, Oide S, Anan K, Taito S, et al. (2023). Efficacy and safety of the surgery-first approach compared to the chemotherapy-first approach for treating low-risk gestational trophoblastic neoplasia: A systematic review and meta-analysis. Cureus. 15(9):e45726.
10. Albahlol IA. (2021). Cervical pregnancy management: An updated stepwise approach and algorithm. J Obstet Gynaecol Res. 47(2):469-475.
11. Balayla J, Gil Y, Lasry A, Mitric C. (2021). Ever-use of the intra-uterine device and the risk of ovarian cancer. J Obstet Gynaecol. 41(6):848-53.
12. Ługowski F, Urban A, Kacperczyk-Bartnik J, Janowska E, Sieńko J. (2025). Successful management of cervical ectopic pregnancy with methotrexate in a nulliparous woman: A case report. Reports. 8(2):91.
13. Salman L, Covens A. (2024). Fertility preservation in cervical cancer-treatment strategies and indications. Curr Oncol. 31(1):296-306.
14. Masroor MJ, Zarei A, Sheibani H. (2022). Conservative management of cervical pregnancy with the administration of methotrexate and potassium chloride: A case report. Case Rep Obstet Gynecol. 2022(1):1352868.