

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20232311>

Case Report

A rare case of cervical ectopic pregnancy: complicated by haemorrhagic shock

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Received: 24 May 2023

Accepted: 28 June 2023

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ABSTRACT

Cervical ectopic pregnancy is a rare condition that accounts for less than 0.1% of all ectopic pregnancies with high morbidity and mortality rate. We present a case of a 25 years old G5P3L2A1D1 with history of 9 weeks amenorrhoea and previous 3 caesarean sections (CS) presented with bleeding per vaginam for 2 days. Ultrasound examination revealed a ballooned-out cervical canal with a gestational sac containing foetus with cardiac activity present and an empty uterus with thickened endometrium with a typical hour-glass configuration of the uterus. Thus, the diagnosis of cervical ectopic pregnancy was made. Patient was complicated by haemorrhagic shock. Immediately hysterectomy was performed. Inj. PCV 4 unit and FFP 6 units were given and post-op- patient was shifted to ICU on ventilation support. In ICU, patient was kept on ventilation support for 4 days with vasopressor supports. Antibiotics, antacids, antiemetics, IV fluids, supportive care given. Patient was discharged on post-op day-7 with stable hemodynamics and healthy vaginal vault and stitch line. Improved ultrasound resolution and earlier detection has led to the development of more conservative treatments in non-severe cases that attempt to limit morbidity and preserve fertility.

Keywords: Cervical ectopic pregnancy, Haemorrhagic shock, Transvaginal ultrasonography, Hysterectomy

INTRODUCTION

Among 5% of total extra-tubal ectopic pregnancies, cervical ectopic pregnancy is rare that accounts for less than 0.1% of all ectopic pregnancies.^{1,2} Trophoblast invades endocervix, and pregnancy develops into fibrous cervical canal. Risk factors include assisted reproductive technology (ART) and prior uterine curettage.²

As pregnancy progresses, there will be a distended thin-walled cervix with a partially dilated external OS. Above cervical mass, partially enlarged uterine fundus is felt. Painless vaginal bleeding is seen in 90% of cases, which can be severe.²

CASE REPORT

25 years old G5P3L2A1D1 with history of 9 weeks amenorrhoea and previous 3 CS presented with bleeding

per vaginam since 2 days. Urine pregnancy test was positive. She wanted termination of pregnancy. Past menstrual history was 6-7 days menstruation at irregular interval of 30-40 days with moderate painless flow.

Her obstetric history was G5P3L2A1D1: G1: Full term CS due to non-progression of labour/10 years back/female child/died, G2: Full term CS due to previous CS/male child/5 years/live, G3: Missed abortion at 2 months amenorrhoea / D and E done, G4: Full term CS due to previous 2 CS/male child/3 years/live and past history of 2 PCV transfusions in last caesarean section.

No significant family history.

On admission examination: Pulse rate 110/min, blood pressure 100/70 mmHg; tongue, nails and conjunctiva-Pallor ++. On per-vaginal examination, uterus 6 weeks size, external OS open, cervical ballooning felt.

Transabdominal and transvaginal ultrasonography (TVS) examination revealed a ballooned-out cervical canal with a gestational sac and an empty uterus with thickened endometrium. The sac contained a foetus with a crown rump length of 1.38 cm, corresponding to 7 weeks and 5 days' gestation with the presence of cardiac activity, with a typical hour-glass configuration of the uterus with decidualization of endometrium. Thus, the diagnosis of cervical ectopic pregnancy was confirmed.

Blood investigations: Hb 7.4%, TC 9220/cumm, platelets 1.92L/cumm; s. creatinine 0.6 mg/dL, SGPT 13IU/L.



Figure 1: Transvaginal ultrasound showing the elongated gestational sac containing live embryo of 7 week 5 days in intracervical canal and closed internal OS.

After admission, pt had complain of dizziness and abdominal pain with sudden increased bleeding per vaginum. On per-speculum examination: active bleeding present from open OS with multiple clots and products of conception. On examination: Pulse rate 140/min (feeble), blood pressure 70/40 mmHg. Immediate resuscitation was started by Intensive care specialists.

In the view of haemorrhagic shock and vital instability, decision of emergency laparotomy was made. Intra-operative: bulky uterus with 5x5 cm sized distended ballooned cervix. Hysterectomy was performed as a lifesaving procedure. Inj. packed cell volume (PCV) 4 units and fresh frozen plasma (FFP) 6 units were given. Post-op-patient was shifted to ICU on ventilation support. In ICU, patient was kept on ventilation support for 4 days with vasopressor supports. On post-op day-5 patient was shifted to ward. Antibiotics, antacids, antiemetics, IV fluids supportive care given. Patient was hemodynamically stable and was discharged on post-op day-7 with healthy vaginal vault and stitch line.

DISCUSSION

Cervical ectopic pregnancy results due to implantation of a fertilized ovum in the endocervical canal below the level of internal OS with a reported incidence of less than 0.1%

of all pregnancies.^{1,2} Even with advanced diagnostic modalities and reduction in current maternal mortality rates, cervical pregnancy remains a life-threatening condition.³ Although predisposing factors like endometrial damage after curettage or chronic endometritis, leiomyoma, intrauterine devices, *in vitro* fertilization and primary embryo anomaly are implicated in the pathogenesis, the rarity of the condition has prevented any retrospective studies, and the association of cervical pregnancy with all these factors remains weak.³ Many non-tubal ectopic pregnancies are caused by previous surgical interventions and therefore the incidence is rising. Although it is rare than tubal ectopic, maternal morbidity and mortality are much higher.⁴

Ultrasound remains the mainstay of diagnosis in corroboration with clinical features.⁵ The ultrasound diagnostic criteria for the cervical ectopic pregnancy are a gestational sac or placenta within the cervix (typically with a foetal cardiac activity or a blood flow) colour doppler will show intense vascularity of cervical implantation, no evidence of intrauterine pregnancy, presence of endometrial stripe (decidualisation), and an hourglass (figure of eight) shaped uterus with ballooning of cervical canal.¹ A gentle pressure over cervix fails to move the implanted gestational sac-a negative sliding sign.

Relatives must be counselled about high risk of haemorrhage, need for urgent surgery, massive blood transfusion and ICU admissions.

Management of cervical ectopic pregnancies should be guided by patient stability, β -hCG level, size of pregnancy, and fetal cardiac activity but may benefit from a planned multimodal approach.⁶ For a haemodynamically stable woman, first line of treatment is methotrexate (MTX) methotrexate is an excellent alternative therapy to surgery for certain patients with ectopic pregnancy and should therefore be considered for all patients who meet the eligibility criteria.^{1,2} Methotrexate has particular advantages in ectopic pregnancies that carry the greatest risk of haemorrhage such as cervical, abdominal and cornual ectopic pregnancies.⁷ A single or multi-dose MTX can be given. Alternatively, a 50 mg MTX can directly be injected into the gestational sac. MTX has higher failure rate when gestational age is >9 weeks, β -HCG levels are >10000 IU/L, crown-rump length >1 cm and foetal cardiac activity present. Intraamniotic potassium chloride (KCl) may be given into gestational sac or foetus if fetal cardiac activity is present.

Dilatation and endocervical curettage can be done. While suction and evacuation bleeding can be minimized by pre-operative uterine artery embolization, giving vasopressin injection intra-cervically or by placing cerclage suture at internal OS to compress feeding vessels.

Cervical branches of uterine artery can be ligated effectively with vaginal placement of hemostatic sutures at 3 and 9 o'clock position.

In case of haemorrhage, 26F Foley's catheter can be tried: placed intra-cervically with 30ml balloon inflation for effective hemostasis and vessel tamponade. Balloon remains inflated for 24-48 hours and then deflated over a few days.

Continuous bleeding and hemodynamically unstable patient may be treated with uterine artery embolization (UAE) and hysterectomy if all other measures fail. During hysterectomy, ureter injury is a concern due to close proximity of a ballooned cervix to the ureters.

Rubin's criteria

Histological diagnosis of cervical ectopic pregnancy after hysterectomy, cervical gland opposite the trophoblastic tissue, trophoblastic attachment below the entrance of uterine vessels to the uterus or anterior peritoneal reflection over uterus and foetal elements are absent from the uterine corpus.

CONCLUSION

The incidence of cervical pregnancy is rare. But there has been increase in the use of assisted reproductive techniques (ART) and increased numbers of caesarean rates has led to increase in incidence of cervical ectopic pregnancies. In the past, cervical ectopic pregnancy was more frequently associated with significant haemorrhage and was treated with hysterectomy. Improved ultrasound resolution and earlier detection has led to the development of more conservative treatments in non-severe cases that attempt to limit morbidity and preserve fertility.

ACKNOWLEDGEMENTS

Author would like to thanks to department of OBGYN, Dr. M. K. Shah medical college and research centre,

Ahmedabad and patient with her families for the valuable support and co-operation.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Bhati BS, Patel A, Rathod N, Patel M. A rare case of cervical ectopic pregnancy: complicated by haemorrhagic shock. *Int J Reprod Contracept Obstet Gynecol* 2023;12:2562-4.