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Case Report

Successful Management of Cervical Ectopic Pregnancy

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Abstract

There is a global increase in the number of ectopic pregnancies including pregnancies in unusual sites like caesarean scar or cervical pregnancy. These cases present a diagnostic as well as management dilemma. In these rare cases there is no consensus on optimal management. We report a case successfully managed and discuss issues in diagnosis and management.

Keywords: *Cervical Pregnancy; Ectopic Pregnancy; Hysteroscopic Resection; Methotrexate; Suction Evacuation*

Abbreviations

hCG: Human Chorionic Gonadotrophin; KCL: Potassium Chloride; MTX: Methotrexate; TVS: Transvaginal Ultrasonography; UAE: Uterine Artery Embolization

Introduction

Cervical pregnancy is a very rare form of ectopic pregnancy. The implantation occurs in the endocervical tissue and due to very limited space available for the growth of implanted embryo, it usually manifests early mostly with painless bleeding. The diagnosis can be easily overlooked and confused with threatened abortion, unless one is specifically looking for it as prevalence is less than 1 percent of ectopic pregnancies [1].

We are reporting a case of cervical pregnancy with early diagnosis and successful management. Accurate diagnosis is important as it can be easily be confused with an incomplete abortion with products lying in the cervical canal and if not treated appropriately can result in profuse bleeding. As the cervix cannot contract, sometimes the only way to control bleeding may be an emergency hysterectomy.

Case Report

MRs P, 30 years, G2A1 with 5+5 weeks pregnancy reported with Bleeding PV for 5 days with no pain abdomen. She is married for one and half years and had terminated first pregnancy at 6 weeks with methotrexate/misoprostol combination 8 months back. Present pregnancy was a spontaneous conception. There was no significant illness in the past or in family.

When bleeding started she consulted a local doctor and was treated conservatively with a diagnosis of threatened abortion. She received Inj. HCG 5000 IU i/m, Inj. Proluton 500mg i/m, tab. Duphaston 10 mg thrice a day, tab Susten 400 mg at bed time and tab Folvite 5 mg once a day. Her beta HCG and TVS was done and with a suspicion of cervical ectopic pregnancy she was referred. Initial β- HCG was 469 iu/ml which increased to 2308 IU in 3 days. TVS showed irregular G.sac ~5 weeks with yolk sac in endocervical canal. Thickened endometrium with? pseudo sac in cavity? cervical ectopic?? incomplete abortion.

On admission her vitals were stable. Her Hb was 11.5 g/l with normal liver and kidney function. As the outside ultrasound was inclusive a repeat TVS was done. It showed anteverted, normal size uterus measuring 6.9 x 5.9 x 2.9 cm. The endometrial thickness measured 7 mm. Evidence of gestational sac was seen within the endocervical canal with mean sac diameter measuring 1.23 cm, corresponding to 5 weeks 2 days. Adequate decidual reaction and 2 mm yolk sac was seen. Fetal pole was not seen. Corpus luteum is seen in left ovary measuring 19 x 17 mm. A diagnosis of cervical ectopic pregnancy was made (Figure 1).

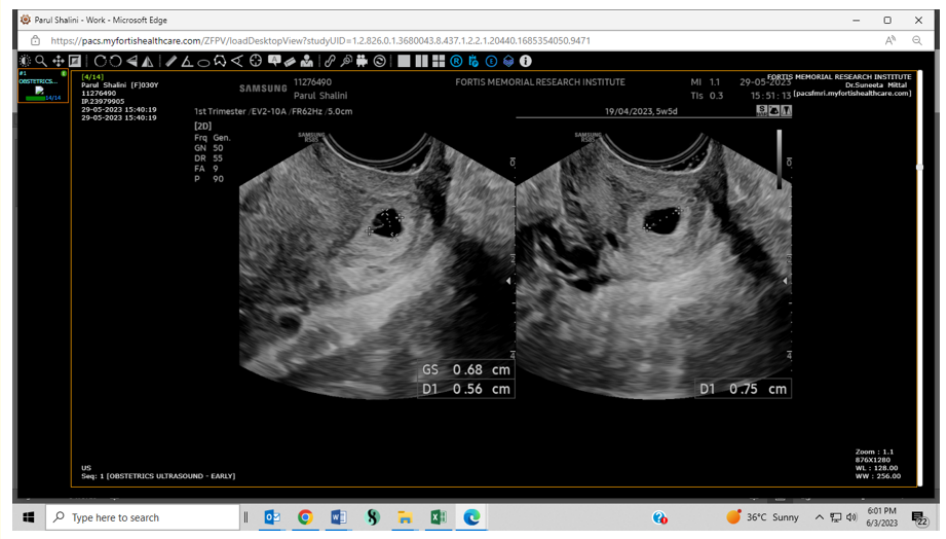

Figure 1: *Empty uterine cavity with intracervical gestation sac.*

As bleeding was continuous, she was counselled in detail regarding her diagnosis and prognosis and Injection Methotrexate 80 mg i/m was given (50 mg/m^2). After 30 hours, she was taken for surgical management. This interval was taken arbitrarily as no optimum interval is described in literature. Since she got admitted in the evening and was bleeding at that time, MTX was immediately given and she was taken for surgery on 2nd day morning after MTX. Examination under anaesthesia revealed closed external os on per speculum. On bimanual pelvic examination - Cervix ballooned, uterus anteverted bulky, fornices free. Vasopressin 0.5 units/ml solution was injected intracervically with a 1.5-inch 21-gauge needle at 3 and 9 O clock position (10 ml on either side). Injection was given after aspiration to avoid the vessel. It can be given intracervically all around the circumference of cervix. On Hysteroscopy sac was seen within 1 cm of external os, the resectoscope was kept ready and sac was removed with suction and evacuation done in endocervical canal (Figure 2). Internal Os dilated with serial Hegar's dilators and uterine cavity was evaluated with hysteroscope. In endometrial cavity decidua was seen. No gestation sac seen in the cavity. Fundus normal, bilateral ostia seen. No adhesions/growth. Endocervical canal normal, implantation site could be seen with no active bleeding, thus procedure concluded.

Figure 2: *Gestation Sac removed from cervix.*

Patient was observed in hospital over next 48 hours and received antibiotics and supportive medication. All the standard universal precautions were taken for COVID-19 during the entire procedure and stay in the hospital. Post operative course was uneventful and she is doing well and is being followed up with weekly β- HCG which is gradually declining. Histopathology of removed products confirmed the diagnosis.

Discussion

AS mentioned earlier cervical pregnancy is a rare type of ectopic pregnancy. Early diagnosis is critical to avoid severe blood loss and ensure successful treatment.

Risk factors

The exact cause for cervical implantation is unknown; however, the risk is higher following an earlier cervical curettage, a previous caesarean scar [2], intrauterine synechiae or conception following embryo transfer [3]. Our patient had one medical termination of pregnancy. There was no identifiable risk factor in her case.

Clinical presentations

Most women will miss a period and may start with painless vaginal bleeding. Lower abdominal pain or cramps are uncommon and help is differentiating from threatened abortion. Some may be asymptomatic. Rarely a woman may present with profuse uncontrolled bleeding.

Diagnosis

A high index of suspicion is necessary to diagnose. All women of reproductive age with missed period, uterine bleeding, or menstrual abnormalities should be tested for pregnancy. Good medical history, physical examination and serum human chorionic gonadotropin (hCG) level estimation is done. On per speculum examination a blue ballooned cervix with closed os is suspicious. In incomplete abortion,

os is usually open. On bimanual pelvic examination also soft bulging cervix is indicative, however, if cervical pregnancy is suspected bimanual is avoided, as there is fear of bleeding. Besides a cervical pregnancy and incomplete abortion may present similarly and may have similar findings on physical examination. In our patient initially she was suspected to have incomplete abortion.

Once βhCG assay is positive, a high resolution transvaginal ultrasound (TVS) is done. Imaging criteria for diagnosis include: empty uterus, bulging cervical canal with a gestational sac and closed internal and external os. In our patient the sonographic criteria described [4] were fulfilled. A distinct echogenic rim could be identified to help distinguish from products lying in cervical canal due to incomplete abortion (Figure 1). A color Doppler helps by showing perfusion as periphery of sac. Sometimes an magnetic resonance imaging (MRI) may be required to confirm the diagnosis and guide the management [5].

Management

Prompt diagnosis and optimal treatment is essential as a delay in diagnosis and/or treatment can lead to major hemorrhage, hysterectomy and serious morbidity. Several management options have been tried. As cervical pregnancy is rare, and there are no established guidelines for management. Options include systemic methotrexate (MTX), local intragestational injection of MTX or potassium chloride (KCl), dilation and curettage (D&C), uterine artery embolization (UAE), and hysterectomy. A combination of methods is often required.

In our patient preoperative MTX followed by hysteroscopic resection of pregnancy was successful in evacuating cervical pregnancy without much blood loss. Intracervical instillation of vasopressin also minimized bleeding. Sometimes multidose MTX therapy or intraamniotic potassium chloride (KCl) injection with 5 mEq potassium may be only treatment required. There are few case reports and small series with use of MTX for successful treatment of cervical pregnancy [6-8]. Only adverse effects reported are drug side effects. In very early cervical pregnancy intramuscular multidose MTX alone may be adequate treatment [9]. In advanced gestations with fetal cardiac activity combined treatment with both systemic multidose MTX and intraamniotic injection of KCL may be useful, however it may take long for resolution of pregnancy [10]. Sometimes bleeding may occur requiring surgical intervention, thus we preferred elective evacuation following MTX, Similar was our observation in cases with scar ectopic pregnancies, where pre operative MTX helped in reducing the blood loss significantly [11]. In a study of nine patients treated with curettage without MTX, three patients underwent hysterectomy for uncontrollable bleeding in two cases and a ruptured cervix in another [12].

Use of hemostatic cervical sutures or intracervical vasopressin before dilation and endocervical curettage is also described. Hysteroscopic resection of the site of bleeding with a resectoscope has also been reported to be successful [13].

In few cases MTX followed by double balloon catheter has also been used successfully [14]. A retrospective series of 5 patients is described with good outcome following double balloon catheter and single dose MTX [15]. Balloon tamponade is also described post evacuation to control bleeding. In a series of 13 cases of cervical pregnancy, successful treatment is reported with curettage plus balloon tamponade [16].

In women with continuous bleeding uterine artery embolization (UAE) before evacuation is helpful. Sometimes UAE may be required even after MTX injection for heavy bleeding. In cases not desirous of future fertility, UEA followed by curettage is successful. UAE is considered a 3rd line therapy as subsequent fertility and pregnancy are uncertain [17]. In a small series, this approach was successful in avoiding hysterectomy or laparotomy in all 16 cases [18]. Hysterectomy is rarely needed and may be considered in women not desiring future fertility. In a review of 36 patients with cervical pregnancy, 15 were treated with only UAE and MTX. Rest needed curettage, and only one needed hysterectomy [19]. Several intrauterine pregnancies are described in the series after successful management of cervical pregnancy.

Conclusion

With modern technology in expert hands, cervical pregnancy can be diagnosed early and judiciously managed, Use of preoperative methotrexate, vasopressin injection and hysteroscopic removal of products is safe option.

Conflict of Interest

None.

Bibliography

1. Bouyer J., *et al*. "Sites of ectopic pregnancy: a 10 year population-based study of 1800 cases". *Human Reproduction* 17 (2002): 3224.
2. Vela G and Tulandi T. "Cervical pregnancy: the importance of early diagnosis and treatment". *The Journal of Minimally Invasive Gynecology* 14 (2007): 481.
3. Matorras R., *et al*. "Cervical pregnancy in assisted reproduction: an analysis of risk factors in 91,067 ongoing pregnancies". *Reproductive BioMedicine Online* 40 (2020): 355.
4. Kung FT., *et al*. "Differential diagnosis of suspected cervical pregnancy and conservative treatment with the combination of laparoscopy-assisted uterine artery ligation and hysteroscopic endocervical resection". *Fertility and Sterility* 81 (2004): 1642.
5. Jung SE., *et al*. "Characteristic MR findings of cervical pregnancy". *Journal of Magnetic Resonance Imaging* 13 (2001): 918.
6. Mesogitis S., *et al*. "Management of early viable cervical pregnancy". *BJOG: An International Journal of Obstetrics and Gynaecology* 112 (2005): 409.
7. Kirk E., *et al*. "The conservative management of cervical ectopic pregnancies". *Ultrasound in Obstetrics and Gynecology* 27 (2006): 430.
8. Jeng CJ., *et al*. "Transvaginal ultrasound-guided treatment of cervical pregnancy". *Obstetrics and Gynecology* 109 (2007): 1076.
9. Weibel HS., *et al*. "Multidose methotrexate treatment of cervical pregnancy". *Journal of Obstetrics and Gynaecology Canada* 34 (2012): 359.
10. Doubilet PM., *et al*. "Sonographically guided minimally invasive treatment of unusual ectopic pregnancies". *Journal of Ultrasound in Medicine* 23 (2004): 359.
11. Mittal S and Aggarwal P. "Current Trends in Management of Caesarean Scar Pregnancy". *EC Gynaecology* 9.12 (2020): 23-28.
12. Kim TJ., *et al*. "Clinical outcomes of patients treated for cervical pregnancy with or without methotrexate". *Journal of Korean Medical Science* 19 (2004): 848.
13. Tanos V., *et al*. "Hysteroscopic management of cervical pregnancy: Case series and review of the literature". *Journal of Gynecology Obstetrics and Human Reproduction* 48 (2019): 247.
14. Monteagudo A., *et al*. "Minimally Invasive Treatment of Cesarean Scar and Cervical Pregnancies Using a Cervical Ripening Double Balloon Catheter: Expanding the Clinical Series". *Journal of Ultrasound in Medicine* 38 (2019): 785.
15. Kus LH., *et al*. "Maternal Morbidity After Double Balloon Catheter Management of Cesarean Scar and Cervical Pregnancies". *Obstetrics and Gynecology* 140 (2022): 993.

16. Fylstra DL. "Cervical pregnancy: 13 cases treated with suction curettage and balloon tamponade". *American Journal of Obstetrics and Gynecology* 210 (2014): 581.e1.

17. Takeda J., *et al*. "Spontaneous uterine rupture at 32 weeks of gestation after previous uterine artery embolization". *Journal of Obstetrics and Gynaecology Research* 40 (2014): 243.

18. Wang Y., *et al*. "An efficient conservative treatment modality for cervical pregnancy: angiographic uterine artery embolization followed by immediate curettage". *American Journal of Obstetrics and Gynecology* 204 (2011): 31.e1.

19. Elmokadem AH., *et al*. "Uterine Artery Embolization and Methotrexate Infusion as Sole Management for Caesarean Scar and Cervical Ectopic Pregnancies: A Single-Center Experience and Literature Review". *Canadian Association of Radiologists Journal* 70 (2019): 307.

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