Case Report

Successful Management of Early Cervical Ectopic Pregnancy with Single Dose Methotrexate

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Abstract

Cervical ectopic pregnancy is an uncommon but a potentially life-threatening condition due to risk of severe haemorrhage and occasional need of hysterectomy. Transvaginal ultrasonogram is a key way to diagnose such a case. Early detection and conservative approach of treatment could limit the morbidity and preserve fertility in many cases. Here, we present a case of cervical pregnancy diagnosed by ultrasonogram at 6 weeks of gestation and treated successfully by a single dose of intramuscular methotrexate.

Keywords: *Cervical ectopic pregnancy; Methotrexate.*

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Introduction

Cervical pregnancy is an ectopic pregnancy in which the gestational sac implants in the cervical canal. The implantation of the conceptus occurs below the level of the internal os.[1] It was first described in 1817.[2] It accounts for less than 1% of all ectopic pregnancies, with an estimated incidence of 1 in 2500 to 1 in 18000. It may be a life threatening condition due to risk of severe haemorrhage and need of emergency hysterectomy.[3,4] It may also be associated with high mortality and morbidity rates.[5] Exact cause of cervical pregnancy is not known. The risk factors include previous endometrial curettage, Caesarean section, use of intrauterine devices, and assisted reproductive technologies.[6] In the past, hysterectomy was often the only choice available because of associated severe haemorrhage. Use of transvaginal sonography with the use of colour Doppler and β-human chorionic gonadotropin (β-hCG) help in early diagnosis of cervical ectopic pregnancy and fertility-sparing treatment options.[7] The common characteristic point is implantation into myometrial defects following previous intrauterine surgery.[3] As a result of myometrial involvement, surgical evacuation of cervical ectopics often results in severe haemorrhage. The bleeding tends to be more severe with increasing gestational age. The treatment options depend

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on patient's condition, gestational age and fertility desire.[4] Treatment with methotrexate (MTX), now reportedly achieves results comparable to surgery for the treatment of appropriately selected cervical ectopic pregnancies and is commonly used treatment of choice. We report here a case with cervical pregnancy which was diagnosed early and who was treated successfully with single dose of 50 mg intramuscular methotrexate. So, routine use of ultrasonogram, especially in high risk cases of ectopic pregnancy can be recommended in order to permit early diagnosis and fertility saving treatment.

Case Report

A 22-year-old, gravid 2nd, with history of one previous Caesarean delivery, presented to our emergency with 6 weeks of amenorrhoea, per vaginal bleeding and lower abdominal pain for 3 days. Her medical history was unremarkable; there was no history of uterine curettage, PID or use of intrauterine device. Her vital signs were stable, abdomen was soft but tender. Pelvic examination revealed a barrel shaped uterine cervix, minimal bleeding through a closed external os. Uterus was enlarged and had no adnexal masses. Ultrasonogram revealed bulky uterus (12.8 x 4.8 cm), there was no gestational sac or any product of conception within the uterine cavity but a well defined gestational sac with good reactive change was seen in the cervical segment of the uterus which measures about 16 mm, corresponding to 5 weeks and 1 day pregnancy with and serum β-hCG level was 4100 mIU/ml. Cervical ectopic pregnancy was diagnosed.

In an attempt to preserve fertility, we offered the patient conservative management with I/M MTX. The potential risk and alternative methods of treatment were explained to her. After admission 1 unit blood was transfused (Hb% 9.5 g/dL). Single dose methotrexate of 50 mg was given intramuscularly. The patient had mild pain in lower abdomen, per vaginal bleeding and passed out a clotted mass after 2 days. This was sent for histopathologic examination which showed features consistent with products of conception. Thereafter, the patient had vaginal spotting and a repeat trans-vaginal sonography (TVS) was done 4 days after initiating chemotherapy. It showed bulky uterus with mild endometrial collection. We discharged the patient 5 days after admission with the advice of weekly follow up with serum β-hCG report. The patient remained well during her out patient follow up visits. After five weeks, serum β-hCG was 2.8 mIU/mL and there was no evidence of any collection on TVS.

Discussion

Cervical pregnancy is a rare form of ectopic pregnancy associated with increased morbidity and mortality. Although the exact etiology of cervical pregnancy is still uncertain and may be multifactorial; intrauterine adhesions, Caesarean sections, fibroids, previous therapeutic abortions, and in vitro fertilization (IVF) have all been associated with cervical implantation. Cervical pregnancy occurs in 0.1% of IVF pregnancies and accounts for 3.7% of IVF ectopic gestations.[8] Parente et al. reviewed 31 cases of cervical pregnancy and found that 25 of 31 patients had history of curettage.[9] The only risk factor the reporting patient had is previous Caesarean section. Vaginal bleeding, which is often profuse, is the most common presenting symptom of cervical pregnancy. Lower abdominal pain or cramps occur in less than one-third of women.[8] Patient usually presents with painless vaginal bleeding but there may be associated abdominal pain and urinary problems, particularly in more advanced cervical pregnancies.[10] The case presented here had mild pain and per vaginal bleeding following 6 weeks amenorrhoea.

Palman and McElin proposed some useful clinical criteria for the diagnosis: 1) Uterine bleeding without cramping pain following a period of amenorrhoea; 2) A soft, enlarged cervix equal to or larger than the fundus (hour glass appearance of

uterus); 3) Products of conception entirely located within and firmly attached to the endocervical canal; 4) A closed internal os; 5) A partially opened external os.[11] The present case has fulfilled most of the criteria like amenorrhoea, vaginal bleeding, cramping pain, and soft, enlarged cervix with closed os.

Cervical pregnancy carries a significant risk of haemorrhage with the possible need for a hysterectomy to control the bleeding. Improved access to transvaginal ultrasound scanning facilities and the rapid assay of β-hCG means that most ectopic pregnancies, including cervical pregnancies, are now detected earlier. As a result of diagnosis earlier in gestation, women have lower serum β-hCG levels, are clinically more stable, and can therefore be offered conservative management.[12]

Over the last decade, therapeutic regimes like chemotherapy, foley catheter tamponade, curettage, local prostaglandin injection and arterial embolization are considered as the options of treatment and thus avoiding the need of hysterectomy.[13] Surgical techniques are generally used only when chemotherapy fails or in emergency situations when a woman, usually undiagnosed and presents with life-threatening acute haemorrhage.[14,15] Among medical management, the most common is systemic or local administration of methotrexate which can be administered through various routes like intramuscular, intravenous, intracervical, or intra-amniotic.[13] The patient presented here had received single dose of 50 mg methotrexate intramuscularly.

Medical treatment protocols for methotrexate were established in the late 1980s and havebe come a widely accepted primary treatment for ectopic pregnancy. The two commonly used methotrexate treatment regimens are multiple dose and single dose.[14,15] The mean time interval between elimination of the cervical pregnancy by methotrexate and the awareness of subsequent conception was 8 months, as averaged from the sum of available data sources.[16] In a retrospective study examining the overall efficacy of methotrexate chemotherapy in cervical pregnancy, the authors concluded that there was no evidence to suggest that the reproductive performance of these patients was affected.[17]

Conclusion

A cervical ectopic can easily be misdiagnosed as threatened abortion, the distinction is extremely important, as the treatment methods differ significantly. Simple speculum examination is found to be more informative and less likely to result in bleeding than bimanual examination. In suspected cases, transvaginal ultrasonogram with Doppler and serum βhCG estimation is very important diagnostic tool. It is important to assess both the patient and services available while making treatment decisions. Methotrexate is the reasonable first line therapy. It is easy to administer and can be given in any hospital. Gynaecologists should be highly aware of these types of cases and skilled enough in the diagnosis and management of this life-threatening condition.

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