

Case Report

Cervical Ectopic Pregnancy: A Management Dilemma

Shafiee MN (✉), Norliza I, Lim PS, Shuhaila A, Mohd Hashim O

Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

Abstract

A 28-year-old G3P1+1 at 6 weeks period of amenorrhea with a previous Caesarean section presented with per vaginal bleeding. A cervical ectopic pregnancy was confirmed by a transvaginal scan. An intramuscular methotrexate was given followed by intracervical route due to poor decline of the serum β HCG. However, due to persistent increment of serum β HCG, an additional four doses of intramuscular methotrexate with folinic acid rescue were administered and she responded well to the regime. Unfortunately, following the last dose, she developed an episode of excessive per vaginal bleeding which required suction and curettage of the cervical canal. A Foley's catheter balloon was placed intracervically as a tamponade and the bleeding was successfully arrested.

Keywords: Cervical ectopic, intracervical balloon, methotrexate

Correspondence:

Dr Mohamad Nasir Shafiee, Department of Obstetrics and Gynaecology, Universiti Kebangsaan Malaysia Medical Centre, Jalan Yaakob Latiff, 56000 Cheras, Kuala Lumpur, Malaysia. Tel: +603-91455949, Fax: +60391738946 Email: nasirshafiee@hotmail.com or mns@ppukm.ukm.my

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Introduction

Cervical ectopic is a very rare variant of ectopic pregnancy with its true incidence of approximately 1:1000 to 1: 95 000 pregnancies (1). Cervical ectopic pregnancy occurs when the fertilized ovum is implanted at the endocervical canal (2).

In the past, the definitive treatment of cervical ectopic was by surgical evacuation. As most women usually presented late in the midtrimester, it was usually associated with torrential haemorrhage, needing hysterectomy as a life saving procedure.

With the availability of skillful ultrasonographer and transvaginal ultrasound, together with precise serum β HCG level measurement, early diagnosis of the cervical ectopic gestation could be made. Hence, conservative medical management could be instituted as a real option when fertility is the utmost pertinent issue.

Case Report

A 28-year-old G3P1+1 at 6 weeks period of amenorrhea presented with a week history of lower abdominal discomfort and per vaginal spotting. A urine pregnancy test was positive a week prior to presentation. She had one previous caesarean section for a macrosomic baby of 4.2kg and followed by a suction and curettage for a missed miscarriage a year later. There was no complication during these procedures.

On assessment, she was not pale and her vital signs were stable with a pulse rate of 88 bpm and a blood pressure of 120/75 mmHg. Her abdomen was soft, not distended, with mild tenderness at the suprapubic area. Speculum examination revealed a tubular, bluish cervix and the cervical os was closed with minimal blood clot noted. Her uterus was anteverted at 8 weeks size and mobile. The adnaexae were normal, the pouch of Douglas was free and there was no cervical excitation.

An initial transvaginal scan revealed an empty uterus with no other significant findings. Serum β HCG level at that time was 974 iu/mL and it increased to 1535 iu/mL 48 hours later. This raised the suspicion of an ectopic pregnancy as the increment was only 57%.

A repeat transvaginal scan was performed and it still showed an empty uterus but there was a gestational sac measuring 12 x 17 x 15 mm, at the cervical canal 10 mm below the closed internal cervical os. A yolk sac of 3.2 mm and a small fetal echo with no fetal heart activity were noted (Fig. 1). Both ovaries were normal and there was no free fluid at the pouch of Douglas.

The diagnosis of cervical ectopic pregnancy was made and the patient and her husband were fully counseled on the treatment options and possible subsequent complications. They opted for medical treatment and she was given intramuscular methotrexate 50 mg/m². However, her brownish per vaginal bleeding and lower abdominal pain persisted with additional arthralgia and myalgia which was treated with codein. Surprisingly, four days later, a repeat serum β HCG level was drastically increased to 8231.9 iu/mL and the ultrasound revealed a growing and viable fetal echo of 20x18 mm. She was thus given another dose of methotrexate (50 mg) intracervical under ultrasound guidance.

On the third day following the intracervical injection, the β HCG level was still increasing at 9360 iu/mL but the fetus was already nonviable. As the hormone level was showing an increasing trend, a decision made for another four doses respectively of methotrexate (50 mg/m²) and folinic acid (50mg) rescue as per trophoblastic disease protocol as outpatient care. She responded well as the β HCG dropped to 5000 iu/mL and 1370.2 iu/mL at day 2 and day 13 respectively, following the completion of the course.

Weekly serum β HCG monitoring was intended until it normalized. Unfortunately, on day 16 of treatment, she developed a torrential per vaginal bleeding with severe lower abdominal pain. An examination under anaesthesia was arranged after two pints of blood was reserved for possible massive blood loss.

Assessment revealed a bluish bulky cervix with dilated cervical os draining fresh blood. Evacuation of the ectopic pregnancy was performed by suction and curettage under ultrasound guidance. A tamponade using Foley's catheter balloon, inflated with 15 ml of normal saline, was placed in the cervical canal to arrest persistent oozing of blood. Total blood loss was estimated to be 250 ml.

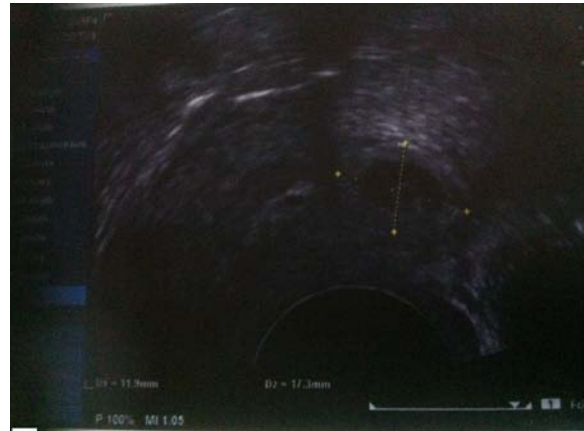


Figure 1: Gestational sac with fetal echo at the cervical canal

Post-operatively she recovered uneventfully, with a haemoglobin of 9.5g/dL. The balloon tamponade was removed 12 hours later with no active per vaginal loss noted. The serum β HCG level post evacuation dropped to 175 iu/mL. She was discharged home two days later. She remained asymptomatic and four weeks later, the serum β HCG level was <1.2 iu/ml. The couple practiced barrier method for contraception for the next six months due to possible teratogenic effect of methotrexate.

Discussion

Cervical ectopic pregnancy is one of the most uncommon locations of ectopic pregnancy, accounting for 0.15% of all ectopic pregnancies (3, 4). Factors that predispose to occurrence of cervical ectopic pregnancy vary and largely remain theoretical. Among factors identified include accelerated migration of fertilized ovum throughout the uterus, changes in the endometrial lining which disrupt its ability to accept implantation and damages to the endocervical canal (5, 6). Regarding this case, the patient has had one previous caesarean section and a history of dilatation and curettage. These may have damaged the endometrial and cervical canal lining which predisposed her to cervical ectopic pregnancy.

Vaginal bleeding and lower abdominal pain are the pertinent symptoms in cervical ectopic pregnancy, as illustrated in this case. This definitely causes uncertainty in excluding other diagnosis of early trimester bleeding. An enlarged cervix with bluish discoloration and opened cervical os trigger certain level of suspicion but they are not diagnostic (6). Hence, ultrasonographic evaluation remains the most essential tool in diagnosing cervical pregnancy (5).

The advancement of transvaginal ultrasound coupled with serum β HCG, allow early diagnosis of cervical ectopic pregnancy (2, 5, 6). There are several criteria used to distinguish between an early intrauterine pregnancy, an ongoing miscarriage with a gestational sac passing through the cervical canal and a cervical ectopic pregnancy. Rubin in 1911 had identified several criteria to diagnose cervical ectopic pregnancy which included close attachment of placenta to the cervix, cervical glands present opposite the implantation site, placental location below uterine vessel insertion or below anterior and posterior reflections of the visceral peritoneum of the uterus and no fetal elements in the uterine corpus (2,7) However, none of these features were identified in this case.

Early diagnosis of cervical ectopic pregnancy provides ample opportunities for less invasive, non surgical options. Expectant approach is not the best option in symptomatic patient with high serum β HCG level. Therefore, medical treatment using methotrexate, is an alternative in haemodynamically stable patient without contraindications. Methotrexate is an antimetabolite cytotoxic drug which plays a major role in the conservative management of ectopic pregnancy. The overall success rate of primary systemic methotrexate is 83% (2). Hung et al (1998), in a meta-analysis of 52 cases, reported a successful rate of 62% with 40% successful rate in cervical pregnancy with the presence of cardiac activity and 91% for cervical pregnancy without cardiac activity (8).

We anticipated highly successful outcome of methotrexate therapy for this case as her initial β HCG level was <10 000 iu/mL and there was only a small fetal echo without fetal heart activity at a very early gestation of 6 weeks. These findings were recognized as favourable prognostic factors according to Hung et al (8). On the contrary, she required multiple doses of methotrexate administered via both intracervical and intramuscular route with additional folinic acid rescue. In fact, a suction and curettage was urgently performed as she was bleeding. This could be secondary to trophoblast-decidua shedding from the uninvolitional and atonic cervix because of the antimetabolic effect of methotrexate causing tissue necrosis and sloughing as a result of drug extravasation following local injection (8).

We managed to minimize the bleeding by using a Foley's catheter balloon as a tamponade immediately after the surgical evacuation. Other modalities have been evaluated to reduce blood loss in cervical pregnancy which includes cervical cerclage, uterine

artery ligation, internal iliac artery ligation and angiographic embolisation (6), with varying success rates.

Curettage is still considered a conservative surgical procedure and hysterectomy is reserved as the last resort if all other procedures to arrest major bleeding have failed which is likely to happen when the cervical pregnancy is diagnosed at a much later gestation.

Conclusion

Early diagnosis of cervical ectopic pregnancy is of utmost importance to reduce maternal morbidity. Even though the incidence is extremely rare, a proper protocol must be made available to avoid unnecessary dilemma in managing such uncertain phenomenon.

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