

Delayed Diagnosis of Cervical Pregnancy: Management Options

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ABSTRACT

Cervical pregnancy is an uncommon variety of ectopic gestation. The aetiology is obscure. Diagnosis can be missed unless early evaluation is done by experienced personnel utilising pelvic ultrasonography. Three cases of cervical pregnancy managed at this hospital are described illustrating difficulties in early diagnosis and possible association with previous uterine scar and prior curettage of the uterus for retained products of conception. Treatment options vary according to the clinical state of the patient at the time of diagnosis. Non-surgical methods including systemic methotrexate administration in one and surgical evacuation of products of conception with subsequent cervical cerclage in another are discussed. Surgical interventions like total abdominal hysterectomy with internal iliac artery ligation to arrest life-threatening pelvic haemorrhage is also described. Other treatment options include potassium chloride (KCl) alone or in combination with methotrexate.

Keywords: Cervical pregnancy, hysterectomy, methotrexate therapy

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INTRODUCTION

Cervical pregnancy refers to an uncommon form of ectopic pregnancy implanted within the cervical mucosa. It is estimated that 0.15 % of all ectopic pregnancies are cervical pregnancies⁽¹⁾. Although the advent of ultrasonography has made the diagnosis more accurate, it is still a problem in developing countries where access and experience in ultrasonography is limited. Both conservative treatment with cytotoxic drugs and more radical surgical interventions like hysterectomy has been described in the management of cervical pregnancies⁽²⁾.

We describe here our experience with three cases where there was delay in diagnosis and difficulty in management.

Case I

A 31-year-old Indian lady Para 3, was referred to our hospital on 5.2.95 with bleeding at 10 weeks pregnancy. She had a previous pregnancy terminated by lower segment caesarean section. In the present pregnancy a clinical diagnosis of incomplete abortion was made by the admitting medical officer who then proceeded with an evacuation of 'retained products of conception' (ERPOC) without having done a pelvic ultrasound examination. Bleeding was profuse at ERPOC and warranted transfusion of three units of whole blood. The gynaecologist on call was called in and a laparotomy was done on a clinical suspicion of perforation of the uterus. A very large haematoma was noted inferior to the previous caesarean scar ballooning out the cervix. A total abdominal hysterectomy with bilateral internal iliac artery ligation was done to arrest pelvic haemorrhage. She was discharged well on 12.02.95. Histopathology confirmed cervical pregnancy.

Case 2

A 30-year-old Malay Gravid 4 Para 2 Abortion 1 was referred to our hospital on 26.09.98 with profuse bleeding per vaginum following an ERPOC for 'incomplete abortion' at another general hospital on 21.09.98. She was 9 weeks pregnant at initial ERPOC. The admitting medical officer proceeded to another uterine evacuation considering a diagnosis of incomplete evacuation of the products of conception. At surgery, the uterine cavity was found to be empty but the cervical os was open 3 cm. A gynaecologist was called to review the case. Pelvic ultrasonography revealed mixed echoes within an enlarged cervix below the internal os consistent with a diagnosis of cervical pregnancy. A beta-HCG done at that stage was 192.2 mIU/ml. She was prescribed Methotrexate 50 mg/m² by infusion for a total of 5 days with folinic acid rescue as for the treatment of gestational trophoblastic disease. When she was reviewed on 29.10.98, she was well and the beta-HCG had fallen to normal levels (i.e. < 2 mIU/ml)

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Case 3

A 33-year-old Malay Gravid 6 Para 5 with a previous uterine scar following a caesarean section for placenta praevia was admitted at 12 weeks gestation on 02.11.98 with a provisional diagnosis of 'inevitable abortion'. A review by the gynaecologist on call revealed a ballooned out cervix with products of conception sitting snugly at the cervical os. An attempt at evacuation was done on the same day after confirming the diagnosis in view of bleeding. Brisk bleeding of 400 mls after attempts to completely remove the products of conception warranted a cervical cerclage with mersilene tape. Haemostasis was secured with the procedure. In view of the possibility of incomplete evacuation, she was prescribed a course of methotrexate as in case 2.

She remained well throughout the course of cytotoxic therapy till 13.11.98 when she started to bleed vaginally. Examination at this stage showed the cervix to have shrunk in size with the previously secured cervical suture hanging loosely. Bleeding from the cervix was moderate in amount causing the patient to become anaemic. Two units of whole blood was transfused and a total abdominal hysterectomy was done on 14.11.98. Postoperative recovery was uneventful and she was discharged well on 18.11.98.

DISCUSSION

Bleeding in early pregnancy is a common cause for gynaecological admissions. The common diagnosis entertained are complications of intrauterine pregnancy, ectopic pregnancy and gestational trophoblastic disease. Pelvic ultrasonography has become an important investigation in diagnosing both intrauterine and extrauterine pregnancies.

All three cases described here were initially diagnosed as complications of intrauterine pregnancy by the admitting doctor and the correct diagnosis was only made after further reviews. Incomplete abortion can usually be diagnosed on clinical grounds but low implantation as in cervical pregnancy can be missed if one is not alert. Inevitable abortion is another diagnosis one will entertain especially when the cervical pregnancy sits snugly distending the cervical canal as in case 3. The key to successful conservative treatment with methotrexate, if contemplated in cervical pregnancy is to identify a gestational sac within the cervix with ultrasonography, excluding the alternative possibility of a spontaneous abortion in progress⁽²⁾. A clinical diagnosis of cervical pregnancy may be made if the following criteria are met⁽³⁾.

- An expanded or ballooned out cervix with a normal uterus above
- Products of conception entirely within the cervix below the internal os

- No products of conception is found in the uterine cavity after curettage

All these factors were considered in cases 1 and 2.

The aetiology of cervical pregnancy is unclear although several possibilities have been considered. Too rapid transport of the fertilised ovum together with a poorly prepared endometrium for its reception has been alluded to by Burg⁽⁴⁾. Endometrial curettage at induced abortions and previous intrauterine instrumentation leading to damage to the endometrial lining appears to make the endometrium unfavourable for nidation of the fertilised ovum^(5,6). In this relation, Ascherman's syndrome and prior use of IUCD appears to be linked with cervical pregnancy. Two of the patients in this report had their previous pregnancies terminated by caesarean sections whilst case 2 had a dilatation and curettage for a miscarriage prior to admission. Weyerman⁽⁷⁾ refers to manipulations of the cervical canal in embryo transfers at artificial reproductive techniques (ART) as an important association. However, this is not generally accepted as cervical pregnancies have been diagnosed after gamete intrafallopian transfer (GIFT) techniques⁽⁸⁾.

The management of cervical pregnancy varies a great deal from conservative cytotoxic drug therapy to radical surgical approaches, depending on the severity of bleeding and the early establishment of the diagnosis. Good results have been reported with the use of methotrexate given both by the parenteral route and intramniotically, preserving future fertility^(9,10) methotrexate regime in two cases were prescribed on days 1,3,5,7,9 with 0.1 mg/ Kg Folic Acid on days 2,4,6,8,10. Effective resolution of ectopic pregnancy evidenced by fall in beta-HCG levels was noted in case 2. However, unlike the findings of others⁽⁶⁾, the patient described in case 3 needed hysterectomy to control bleeding. Other conservative measures described include intra-amniotic injection of methotrexate and hysteroscopic evacuation of cervical pregnancy^(11,12). Local intrasac injections of methotrexate and potassium chloride (KCl) in combinations or as primary treatment has been described with success rates reaching 90%. Local (KCl) injection has been used after failure of systemic methotrexate in three cases⁽¹³⁾.

It must be emphasised that chemotherapeutic management must only be instituted when a reliable diagnosis of cervical pregnancy has been made in a haemodynamically stable patient of less than 12 weeks gestation with end organ failure. Bleeding can be torrential needing urgent surgical intervention. This is well illustrated in cases 1 and 3. Cervical encerclage was employed initially in the last case to arrest bleeding

but this turned to be a temporary procedure as the patient eventually required hysterectomy.

The use of Foley's catheter tamponade and nylon purse suture to arrest bleeding after ligation of the cervical branches of the uterine artery has been described⁽¹⁴⁾. Despite the improvement reported with conservative approaches, more radical interventional measures like hysterectomy need to be considered especially where the diagnosis is delayed and profuse vaginal bleeding is encountered. The first case (*case I*) needed internal iliac artery ligation because of troublesome bleeding at the vault after the completion of hysterectomy⁽¹⁵⁾.

The three cases described illustrate the need for confirmation of viable intrauterine pregnancy by pelvic ultrasound so as not to miss out abnormally sited pregnancies. Although successful treatment with cytotoxic drugs is possible in the management of cervical pregnancy, in the presence of profuse bleeding early resort to radical approaches will produce good maternal outcome.

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