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Cervical pregnancy - A conservative approach

Shraddha Shastri[1], Ketaki K Junnare[2], G S Shekhawat[3]

[1]Assistant Professor, [2]Assistant Professor, [3]Professor, Department of Obstetrics and Gynecology, Smt.Kashibai Navale Medical College, Narhe, Pune, Maharashtra, India

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ABSTRACT

A case of cervical pregnancy responded well to intramuscular Methotrexate therapy is presented. It is suggested that, in cervical pregnancies in which fertility preservation is desired, a stepwise conservative approach should be applied before resorting to surgical intervention.

Key words: Conservative treatment, Methotrexate, Cervical ectopic

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INTRODUCTION

Cervical pregnancy is a rare form of ectopic pregnancy which is often associated with significant morbidity and devastating effects on future fertility. It accounts for <1% of all ectopic gestations. Its incidence varies between 1 in 1000 to 16 000 pregnancies, with the highest figures reported from Japan, which also has a high incidence of antecedent curettage.[1] The diagnosis of cervical pregnancy is commonly delayed and is often made intra operatively in the presence of massive blood loss, necessitating an emergency hysterectomy in ~50% of cases. Early diagnosis has been improved by ultrasonography, with a consequent decrease in morbidity and mortality. During the last decade, in an attempt to avoid hysterectomy and preserve fertility, a more conservative therapeutic approach was developed, including chemotherapy, cerclage, hypogastric iliac artery ligation, and arterial embolization under angiographic control.[2] In this report, we present a conservative approach, for cervical pregnancy with methotrexate (MTX).

CASE REPORT

A 30 yrs old patient, gravida 3, para1, abortion 1, was admitted to our department at 07 weeks gestation with painless vaginal bleeding of 02 days duration. She wanted to undergo MTP. Past menstrual history, she had regular cycles, 3-4 days flow, moderate and painless bleeding. Obstetric history –3 yrs back she delivered a male child by lower segment caesarian section (LSCS) which was done for Intra uterine Growth retardation and oligohydramnios. She had a spontaneous abortion 1 yr back for which D&E was done. Her medical history was unremarkable, with no previous pelvic inflammatory disease, or intrauterine devices. Vital signs were stable, and the abdomen was soft and not tender. Pelvic examination revealed a barrel-shape uterine cervix with minimal bright bleeding protruding through a closed external os. The uterus was slightly enlarged and had no adnexal masses. Transabdominal and transvaginal ultrasound examinations confirmed the presence of a cervical pregnancy with fetal pole and fetal cardiac activity (Figure 1). Quantitative beta-human chorionic gonadotrophin (HCG) concentration was 20,879 MIU/ml on admission. Her urine pregnancy test was also positive. Her other baseline investigations at admission are given in Table-1. β HCG was measured at frequent intervals thereafter for monitoring progress of her treatment (Figure 2). In an attempt to preserve fertility, we offered the patient conservative management with i.m. Methotrexate (MTX). The potential risks and alternative methods of treatment were explained to her, and written informed consent was obtained. Decision of conservative management with systemic injection of Methotrexate with variable dose regimen & monitoring with serial β HCG titers was taken as she was keen to

Address for correspondence:
Dr. Shraddha Shastri, Assistant Professor, Dept of Obstetrics and Gynecology, Smt.Kashibai Navale Medical College, Narhe, Pune-411041, Maharashtra, India. **E-mail:** drshradds@gmail.com, **Mobile:** 7507711446

Table 1: Investigations on admission

β HCG	Hb%	TLC	Platelet	SGOT/SGPT	S. Bili	BUN	S. Creatinine
20,879 Miu/l	12.3 gm%	10,700	1.32 lac/L	18/18 IU/l	0.5 mg%	35	0.76

retain uterus for future fertility. Variable dose regimen of Inj. Methotrexate 1mg/kg was given on day1, 3, 5,7 with alternate day Inj.Folinic acid 0.1mg/kg on day 2,4,6,8. β HCG level repeated on day 3 was 26,154 MIU/ml. Serial monitoring of HCG levels and CBC, LFT & RFT was done for follow up. During the next few days the βHCG level decreased slightly (Figure 2), measuring 10 230 mIU/ml at 1 week, with the concomitant disappearance of fetal cardiac activity. HCG continued to decrease for the next 2 weeks and then stabilized around 2700 mIU/ml (Figure 2). Though serial ultrasound examinations showed no change in the intracervical sac dimensions, bright red vaginal bleeding requiring the use of two perineal pads during one night reappeared. Two days later vaginal bleeding ceased and the patient was discharged. The βHCG concentration continued to drop on out-patient follow-up, as shown in Figure 2. One week after discharge, a collapsed gestational sac was demonstrated; coincidental with the commencement of menstruation, the gestational sac disappeared (Figure 3).

DISCUSSION

There are two main treatment options for cervical pregnancy when fertility is desired: surgical and pharmacological. The different methods described include cervical cerclage, intracervical balloon tamponade of the cervix, vaginal packing, local haemostatic sutures, curettage followed by local prostaglandin instillation, ligation of the descending branches of the uterine arteries, and bilateral hypogastric artery ligation.[3,4] Since the early 1980s there have been many reports of the successful and unsuccessful use of chemotherapy; MTX has been variously administered by the i.m., i.v., intracervical and intra-amniotic routes.[5] The presence of fetal cardiac activity or advanced gestational age was associated with higher rates of treatment failure.[6] With today's more widespread application of arterial angiography in gynaecology and obstetrics, selective arterial embolization has become accepted as a highly effective technique for controlling acute and chronic genital bleeding.[7] Selective arterial embolization is optimally employed prior to hypogastric artery ligation or hysterectomy and has various therapeutic advantages, such as avoidance of surgical risk and preservation of fertility.[8] Variable dose regimen has been promising with Inj. Methotrexate 1 mg/kg given on day 1,3,5,7 and

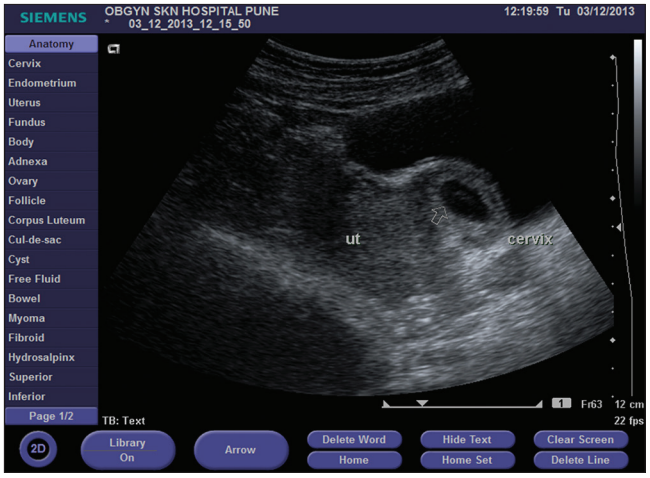

Figure 1: Cervical pregnancy (Cx), as seen by transvaginal ultrasonography

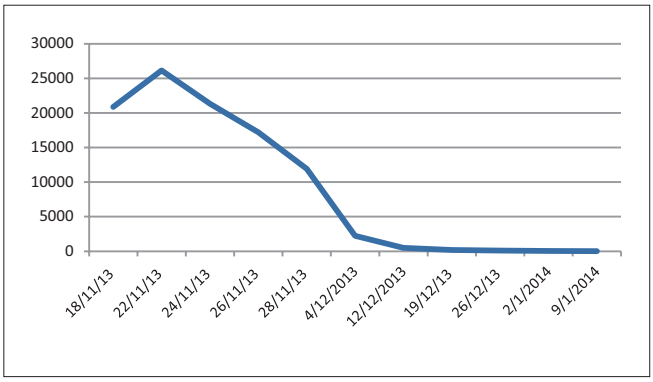

Figure 2: Beta-human chorionic gonadotrophin (β -HCG) concentration during the course of disease. MTX = methotrexate

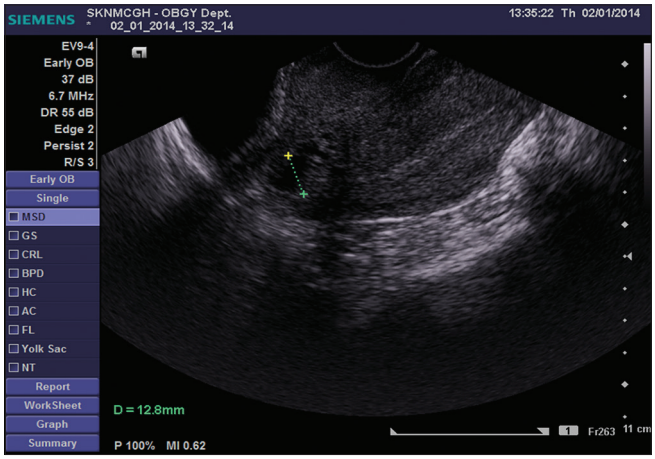

Figure 3: Transvaginal USG on day 10 showing collapse of gestational sac with reduced vascularity and absent fetal pole

folinic acid rescue on day 2,4,6,8. β HCG levels on day 1,3,5,7 till levels ≥ 15% in 48 hrs. Then weekly β HCG levels until undetectable.[9]

In our case, in an attempt to preserve fertility, we chose a stepwise conservative approach. We suggest that MTX, which seems by far the best choice for treatment of cervical pregnancies, should be offered first by the i.m. route, by the routine protocol most commonly used by the department, which is considered simple and safe. If on follow-up evaluation, βHCG concentrations do not decrease (>15% from baseline) or persistent fetal cardiac activity is observed, direct intra-arterial MTX should be instituted.[10] We prefer this approach to proceeding to direct puncture and feticide because of the possibility of starting an incomplete abortion with consequent life-threatening hemorrhage. During MTX administration, an increase in bleeding pattern or the reappearance of vaginal bleeding may require further intervention with intra-arterial embolization. Any profuse bleeding during these therapeutic measures, with consequent haemodynamic compromise of the patient, may necessitate surgical intervention, such as curettage with Foley catheter tamponade, Shirodkar-type cervical cerclage, cervical hysterectomy, bilateral uterine or iliac artery ligation and hysterectomy.[11] Best results with conservative management are obtained when the gestational age is less than 7weeks and the β hcg titres are less than 6000 mIU.[12] but our case report has shown effective treatment given with 4 doses of systemic administration of methotrexate without local treatment with very high initial β hcg titres (20,879mIU).

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Authors Contribution:
SS - Management of the case, writing of manuscript, follow up of the patient; **KJ -** Performing the ultrasonographies, management of the case;
GSS - Management of the case

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