Case Report

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OBG & GYN Section

Trans-Cervical Fine Needle Aspiration of the Amniotic Fluid in a Cervical Pregnancy: 'Taming the Hornet's Nest'

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ABSTRACT

Cervical pregnancy is a rare obstetric complication with the inherent risks of haemorrhage and eventually, the life saving hysterectomy. Since the late 1980s, a conservative management with methotrexate has been widely practised, with a substantial success rate. The incidence of the alarming haemorrhage, though it is diminished by the medical therapy, still remains a cause for anxiety, for an unpredictable period of time. We are presenting here a case of 26-year old primi-gravida at 7 weeks, with a viable cervical gestation, which was initially managed medically. A week after the cessation of the medical therapy, a rarely attempted procedure in such conditions, trans-cervical fine needle partial aspiration of the amniotic fluid which was guided by a trans-abdominal Ultra-Sonogram (USG) was done, which enabled the expulsion of the Products of Conception (POC) within the next 48 hours uneventfully.

Key Words: Cervical pregnancy, Aspiration, Amniotic fluid

INTRODUCTION

Cervical ectopic pregnancy is a rare obstetric complication, its incidence being 1 in 978 live births in Japan and 1 in 56 730 live births in USA [1]. Baptisti noted that a great majority of the obstetricians never got to see a cervical pregnancy and that the few who did, would wish that they had not seen it [2]. Before 1980, inadvertent hysterectomy had been the mainstay of the therapy. With the advent of the medical management, the risk of the alarming haemorrhage came to be of concern, even with the conservative management, distraught with anxious indefinite watchful expectancy.

We are presenting our experience with a cervical ectopic gestation at 7 weeks, which was managed successfully by a new, safe, and a simple method that could afford a definitive therapy, as well as it could shorten many anxious moments of uncertainty and risk in such cases.

CASE REPORT

A 26-years primi-gravida with a history of 7 weeks of amenorrhoea and painless spotting per vagina for the past 10 days was referred for tertiary care, having been diagnosed as having a cervical pregnancy during a routine USG examination within the last 7days. Her medical history was unremarkable. Her general and systemic examinations were unremarkable. On her pelvic examination, it was found there was no bleeding per vaginum, the cervix was soft and distended and that the external os was closed. The uterus was bulky and the Beta HcG value was 16,000 iu/ml.

A trans-abdominal USG showed a single, regular, gestational sac with a single viable foetus in the dilated endo-cervical canal of the ballooned cervix. The internal os was closed. The uterine corpus was empty [Table/Fig-1]. The Trans vaginal USG showed a viable embryo CRL 6+4 weeks in the cervical canal [Table/Fig-2]. Colour flow doppler showed a low resistance peri-trophoblastic arterial flow and this was congruent with the diagnosis.

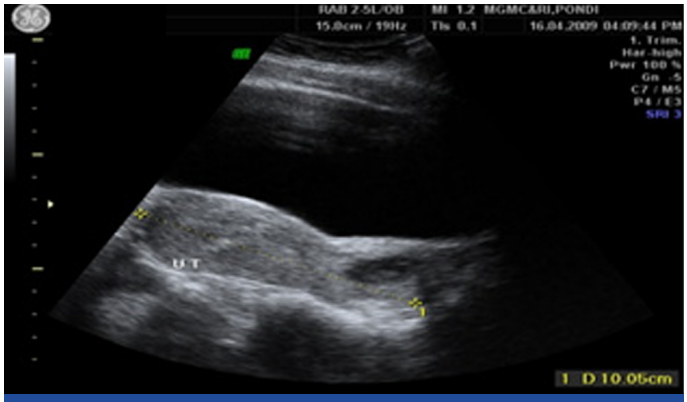
The patient was counseled regarding the inherent risks of a cervical pregnancy, the alarming haemorrhage and about the side effects of the methotrexate medical therapy. She was also given reassurance. The baseline investigations, the complete haemogram and the LFT values were within normal limits. The appropriate medical management was decided and a 7 days regime–methotrexate 1mg/kg body wt on days 1,3, 5 and 7 and folinic acid 0.1mg/kg body wt on days 2,4,6 were administered parenterally. The patient was kept under observation.

2 days after the initiation of the medical therapy, the cardiac activity of the embryo disappeared and the gestational sac did not show any alteration in size at the end of one week of the therapy. On further observation in the hospital for 1 more week, the gestational sac showed no alteration in size, at which point, the patient became restless and insisted on getting discharged.

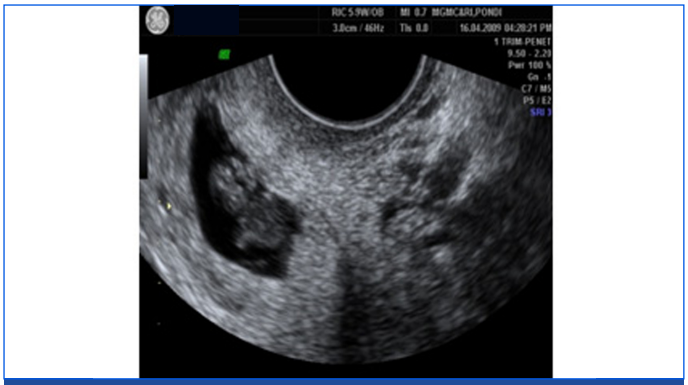
Hence, a trans-abdominal USG guided trans-cervical aspiration of the amniotic fluid (2ml) with a fine needle (20 gauge venflon IV cannula with sheath) was performed. This was followed by the expulsion of the products of conception within 48 hours uneventfully.

DISCUSSION

Until 1953, the reported mortality for women with cervical pregnancies varied between 6% and 45%. Over the following 30 years, the mortality rate has dropped to 0%. However, in many patients,



[Table/Fig-1]: Trans Abdominal USG



[Table/Fig-2]: Transvaginal USG

hysterectomy remained the ultimate solution. A review of the literature of the years 1968 to 1978 showed that 90% of the patients with cervical pregnancies underwent emergency hysterectomy. Van De Meerssche et al., (1995) noted a hysterectomy rate of only 15%, Before 1980, inadvertent hysterectomy had been reported to be the mainstay of the therapy, owing to the unanticipated and the uncontrolled bleeding which was encountered by unwary obstetricians [3]. Since the late 1980s, with the advent of USG, a conservative management has taken the centre stage.

Various conservative therapeutic strategies have been used since 1989, i.e., a medical management by using methotrexate/ prostaglandins by various routes – the systemic, intra sac and the intra cardiac administration of potassium. The surgical methods, both prophylactic and therapeutic interventions which are in vogue are uterine artery/internal iliac artery/descending cervical artery ligation, Uterine Artery Embolization (UAE) and balloon intra cervical tamponade. Of these, methotrexate is being widely used as the primary therapy, it being effective in 64.3% of the cases (18 of 28 cases), with no additional interventions being required [1].

Kung et al., after studying the efficacy of methotrexate, reported that subsequent to the methotrexate therapy, the need for concomitant surgical procedures in viable pregnancies was 43%, while for the non viable ones, it was 13%, and that the success rate of the preservation of the uterus was comparable in both the groups, 94% and 91% [4]. Kirk et al., reported that following the medical therapy, 21% of the patients required additional surgical interventions to treat the haemorrhage [5].

In our case, the patient's course in the hospital was status quo, with unaltered sac dimensions after one week of the conclusion of the methotrexate therapy. Since the patient was impatient and was unwilling to extend her stay in the hospital for observation and as her residence was at a distance of at least 3 hours travel from the institute, we were faced with a management predicament. Our aim now, was centered on somehow ensuring that the patient's life was not jeopardized by the course of the events with the POC in the given social setting.

It has been reported that the POC in cervical pregnancies either get resolved in three to nine weeks or are expelled in an unpredictable period of time [6]. In the latter case, Kirk et al., in their study, found the risk of the torrential bleeding to be 21% and all the patients mandatorily required emergency tertiary care. So, we decided to try a novel technique of amniotic fluid aspiration which had been used in the past to terminate intra-uterine pregnancies successfully. In our case, the POC was evacuated within 48 hours of their aspiration without untoward effects, which was confirmed by USG. The patient was enabled to go home, free of risk and anxiety. She was advised contraception and follow up.

We speculated that when the amniotic fluid is aspirated from the gestational sac, it leaves the sac flaccid; thereby, the chorio-amniotic membranes cleave and denude from the endo-cervix very gently, co-ordinating with the retraction of the distended cervix and thus sparing the furious lacerations of the trophoblastic blood vessels that may ensue following a surgical intervention. Besides, the prostaglandins which are released on the separation of the sac, augment the expulsion of the POC.

Hence, in a tertiary health care setting, trans-cervical fine needle aspiration of the amniotic sac along with a medical management could be a viable and a simple management procedure in cervical ectopic pregnancies, to expedite the cure and also to shorten the possible indefinite period of anxious expectancy, both for the physician as well as for the patient.

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