

Cervical Pregnancy: A Case Report

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Abstract: *Aims and Objectives: Reporting a case of cervical ectopic pregnancy and fertility sparing management of the same successfully. Materials and Methods: Cervical pregnancy is a rare entity < 1 % of all ectopic pregnancies. A 35 year old primigravida patient infertile treated married life 9 years reported at our hospital on 4 august midnight with complaints of pain abdomen and bleeding per vaginum since 4 hours . She was a booked case of a tertiary hospital. Her usg on 4 July 2017 was 8 weeks cervical pregnancy with cardiac activity, on 4 august 10 weeks cervical pregnancy with cardiac ctivity. Patient did not take any treatment uptil then . her vitals were BP 90/60 mm Hg and pulse rate 100 /min. After counselling and informed consent under local anesthesia cervical curettage was done followed by insertion of no 18 foley's catheter inflated with 40 ml saline for tamponade. Post operative period was uneventful. She was given one dose of injection methotrexate 50 mg/m2. Her beta hcg declined and she resumed her periods after two months. Results and Conclusion: Histopathology report confirmed presence of chorionic villi and decidual tissue with cervical stroma and glands . Use of assisted reproductive technologies are causing increased incidence of it. The success of conservative treatment depends on the timely diagnosis and management and thus avoiding the need of hysterectomy.*

Keywords: Cervical ectopic, methotrexate, ultrasound imaging, hysterectomy

1. Case Report

A 35 year old primagravida with married life of 9 years was infertility treated at some tertiary hospital in Delhi . Her menstrual cycles were not normal and had decreased menstrual flow with irregular cycles. She had to be given progesterone for withdrawal bleed a couple of times. There was no significant medical or surgical history. She was cohabitating with husband since her marriage. Her husband was a factory worker, non smoker, non alcoholic. Her investigations were normal except for her ultrasounds which mentioned polycystic ovaries. Her husband's investigations were normal. She underwent ovulation induction for three cycles according to the standard treatment protocols. She conceived in her third cycle of induction. After conceiving she was undergoing routine antenatal checkup. Her first ultrasound was on 4 July 2017 which mentioned cervical pregnancy 8 weeks duration with cardiac activity. She was advised admission for the management of the same but she refused admission. Her repeat ultrasound after 2 weeks confirmed cervical ectopic with cardiac activity and she came to our casualty with complaints of pain abdomen and bleeding per vaginum for 4 hours. Her vitals were stable and on examination there was bulky cervix, bleeding and cervical tenderness. She had the ultrasound report but no picture of it . After taking consent under local anesthesia dilatation and curettage was done and then intracervical foley's was inserted with 40 ml saline . One dose of injection methotrexate 50 mg was given and her products were sent for histopathology . Patient withstood the procedure well. On follow up her beta HCG declined and she resumed her periods after 2 months .

2. Introduction

Cervical ectopic pregnancies (CPs) account for less than 1% of all pregnancies, with an estimated incidence of one in 2500

to one in 18,000.[1,2] In the past, CP was associated with significant hemorrhage and was treated presumptively with hysterectomy. Improved ultrasound resolution and earlier detection of these pregnancies has led to the development of more conservative treatments that attempt to limit morbidity and preserve fertility. Given the rarity of the condition, even today, the most effective method of its management is under investigation. A case of CP is presented here, highlighting the successful diagnosis, management and challenges of this rare condition

3. Discussion

CP results due to implantation of a fertilized ovum in the endocervical canal below the level of internal os with a reported incidence of less than 0.1% of all pregnancies.[1,2] Even with advanced diagnostic modalities and reduction in current maternal mortality rates, CP remains a life-threatening condition.[3] Although predisposing factors like endometrial damage after curettage or chronic endometritis, leiomyoma, intrauterine devices, *in vitro* fertilization and primary embryo anomaly are implicated in the pathogenesis of CP, the rarity of the condition has prevented any retrospective studies, and the association of CP with all these factors remains weak.[4,5]

Treatment options for CP may be divided into five categories: [1]

- 1) Tamponade with Foley catheter: Use of a Foley catheter, placed gently past the external os, followed by inflation of the bulb with 30 mL saline has been used mostly after other techniques (e.g., curettage), result in hemorrhage. Tamponade with packing is not very useful
- 2) Reduction of blood supply: This may be undertaken by cervical cerclage, vaginal ligation of cervical arteries, uterine artery ligation, internal iliac artery ligation and angiographic embolization of the cervical, uterine or

internal iliac arteries. This is usually done in preparation for surgical therapy like curettage, or along with chemotherapy, as a conservative treatment modality aimed at preserving future fertility. Embolization is primarily used as a “rescue” therapy when profuse bleeding follows other conservative methods like chemotherapy

- 3) Surgical excision of trophoblast: Curettage and hysterectomy are the classic methods for surgical excision of trophoblast tissue. Curettage is the age-old fertility preserving method, but risks hemorrhage. Therefore, it has been used in conjunction with mechanical methods like cervical artery ligation and tamponade. Primary hysterectomy may still be the preferred modality of treatment in intractable hemorrhage, second trimester or third trimester diagnosis of CP and possibly to avoid emergency surgery and blood transfusion in a woman not desirous of fertility. In a review, 100% of CP beyond 12 weeks' gestation ultimately required hysterectomy
- 4) Intra-amniotic feticide: Ultrasound-guided intra-amniotic instillation of potassium chloride and/or methotrexate has been used as a conservative approach for the management of CP. Both these procedures require skill and expertise
- 5) Systemic chemotherapy: The most commonly used agent is methotrexate, used in a single dose or multiple doses, with or without folinic acid. However, methotrexate may be associated with bone marrow suppression, gastrointestinal disturbances and elevation of hepatic transaminases. Recently, a combination of laparoscopy-assisted uterine artery ligation followed by hysteroscopy local endocervical resection to remove CP has been described as a fertility-preserving alternative therapy.[6]

In clinically stable patients, if ultrasound measurements show no cardiac activity and the gestational period is less than 9 weeks, systemic methotrexate may be tried.[1] Gestational period more than 9 weeks with the presence of cardiac activity demonstrated on ultrasound in a clinically stable patient may require addition of intra-amniotic potassium chloride in addition to systemic methotrexate.[1] Second or third trimester diagnosis may warrant hysterectomy. In a hemorrhaging patient, the treatment options are tamponade with Foley balloon, large vessel ligation or angiographic embolization with hysterectomy reserved for intractable bleeding.[1] Often, more than one method is usually tried in the termination of CP.[1]

Treatment with methotrexate chemotherapy of patients with either viable or nonviable CP at < 12 weeks' gestation carries a high success rate (>91%) for preservation of the uterus.[7] Although intra-amniotic instillation of potassium chloride has been advocated in the presence of cardiac activity, the procedure requires a high level of skill and familiarity and is associated with the risk of hemorrhage.[1] Therefore, in our case, we chose to manage the patient with systemic methotrexate followed by MVA and cervical tamponade as this was the least invasive modality.

It is important to distinguish among CP, cervical abortion and uterine scar pregnancy. In 2002, the following guidelines were

laid down for ultrasound diagnosis of an ectopic pregnancy within a cesarean scar:[8](a) an empty uterine cavity and cervical canal, (b) development of the gestational sac in the anterior portion of the lower uterine segment and (c) absence of a healthy myometrium between the bladder and the gestational sac. Although her history included IUI, which is a risk factor for CP,[9] and we could rule out cervical abortion due to the presence of cardiac activity, it was difficult to exclude the possibility of uterine scar pregnancy because of previous LSCs.

The specificity of three-dimensional (3D) ultrasound imaging has been reported to be better than two-dimensional (2D) scans as the 3D image incorporates an additional coronal section that is not possible with 2D imaging.[10] Because we did not have a 3D scan facility, we used MRI to confirm the diagnosis of CP, as tissue characterization is better with MRI when compared with ultrasound, especially in doubtful cases such as this.[11,12] The MRI findings of CP include:[11] (a) presence of a mass with heterogeneous signal intensity and (b) partial or complete dark rim on T2-weighted images. In conclusion, a case of CP is described where multi-modality investigations were used in the diagnosis, which aided the subsequent management, resulting in successful preservation of fertility.

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