

Conservative Management of Advanced Cervical Ectopic Pregnancy in the 12th Week of Gestation: A Case Report

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Abstract

A case of advanced cervical ectopic pregnancy is presented. It was diagnosed by cervical examination and abdominal ultrasound then treated conservatively, in the 12th week of gestation using intra amniotic sac and intra muscular administration of methotrexate, injection of diluted vasopressin in the location of cervical vessels and balloon of Foley catheter, then product of pregnancy was evacuated by intra cervical curettage. The utilization of various procedures in the treatment resulted in preserving the patient's uterus and her fertility potential.

Keywords: Cervical ectopic pregnancy; Methotrexate; Vasopressin; Uterine preservation

Introduction

Cervical ectopic pregnancy is extremely rare. The incidence varies between 1 in 1000 to 1 in 18000 of pregnancies [1].

Treatment options comprises of conservative and radical management. Radical approach includes hysterectomy, not allowing any future pregnancy, and conservative management comprises of systemic or local methotrexate, injection of diluted vasopressin in location of cervical vessels, ligation of cervical vessels, uterine artery embolization and dilatation and curettage [2,3].

The main goal of this report is to describe a conservative management of advanced cervical ectopic pregnancy at the 12th week of gestation using a combination of intra sac and systemic methotrexate injection, diluted vasopressin in location of cervical vessels, insertion of Foley catheter to tampon of the hemorrhagic cervical bed and finally dilatation and curettage.

Case Report

A 33-year-old woman was referred from Royan infertility center in order to manage for fertility preservation with known diagnosis of cervical ectopic pregnancy. The past history of patient didn't show, infection, IUD insertion or uterine surgery, however her ectopic pregnancy had been achieved after a cycle of *In vitro* fertilization (ICSI).

She was in the twelfth week of gestation. The trans-vaginal ultrasound showed an empty uterus with a gestational sac, measuring 70 in 62 mm in the cervical canal without fetus, but with the presence of peritrophoblastic blood flow (Figures 1 and 2).

The initial beta-human chronic gonadotropin (β -HCG) concentration was 24700 IU/l.

Vaginal examination showed, moderate bleeding and closed external ostium with hugely bulged cervix.

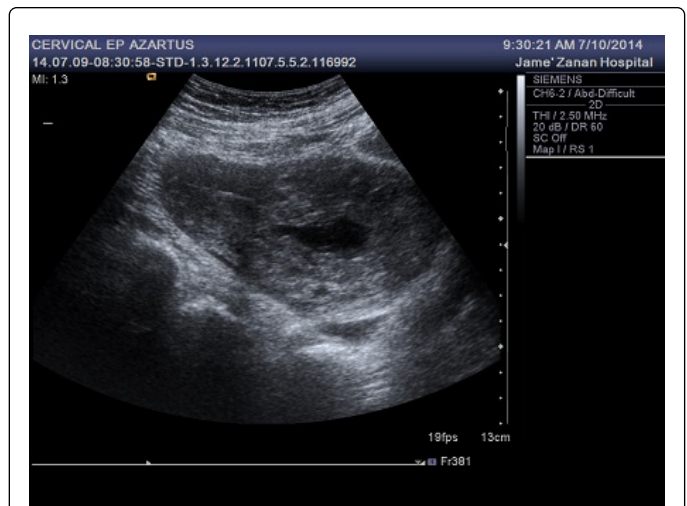


Figure 1: The trans-vaginal ultrasound showed an empty uterus with a gestational sac, measuring 70 in 62 mm in the cervical canal without fetus.

The patient was hospitalized, then by gathering and reviewing of the articles about conservative management of ectopic cervical pregnancy, we decided to schedule a combination of different methods to manage and preserve fertility potential in this infertile patient. She signed the written consent form, then the patient received 50 mg methotrexate intra amniotic sac and according to the large diameter of trophoblastic mass and high titer of β -HCG, she received the same dose of methotrexate intramuscularly. The day after systemic injection, the patient faced with a massive vaginal bleeding and was transferred to the operating room. The bleeding was controlled by injection of diluted vasopressin in the location of cervical vessels in 3 and 9 o'clock, deeply in cervical Struma, cervical suturing and cervical packing by balloon of Foley catheter. Based on heavy hemorrhage, the patient received 2 units of packed cell. The day after transfusion, Hb and Hct were; 10.3 and 31.6 mg/100.

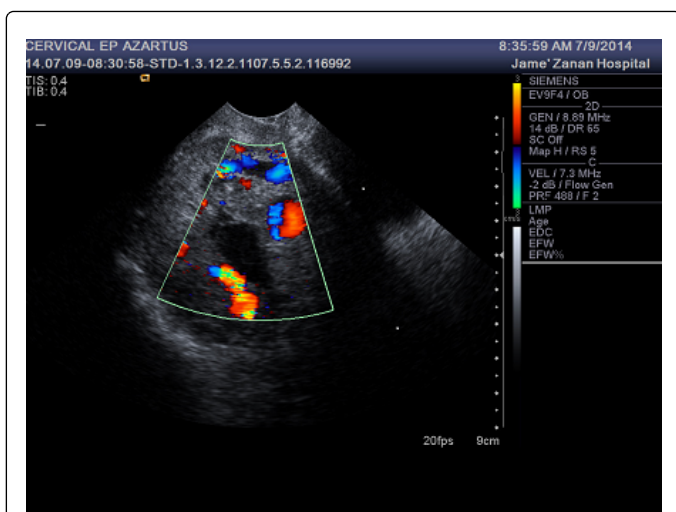


Figure 2: The trans-vaginal ultrasound showed an empty uterus with a gestational sac, measuring 70 in 62 mm in the cervical canal without fetus, but with the presence of peritrophoblastic blood flow.

Four days after local MTX injection the level of β -HCG decreased to 5100 IU/l and after seven days it became 6230 IU/l.

Eight days after local MTX injection, the level of β -HCG concentration and volume of peritrophoblastic blood flow, decreased significantly compared to initial value, so we decided to manage and extract the conception product, in a well prepared condition in the operating room. The anesthesiologist was informed about the probability of massive hemorrhage during procedure, the patient lay in lithotomic position, diluted vasopressin was injected in the location of cervical vessels and dilatation and curettage was carried out immediately and conception tissues were extracted and sent to pathologist for evaluation. The patient encountered a heavy bleeding during curettage which was stopped with supportive care including injection of diluted vasopressin and insertion of Foley catheter to tamponade the hemorrhagic bed. The patient received two units of packed cells. One day after transfusion the Hb and Hct were 9.1 mg/100 and 27.1 mg/100 respectively.

Two days after curettage, the level of β -HCG decreased to 97.5 IU/l, and then the patient was discharged in well condition. She was followed weekly by trans-vaginal ultrasound and serial β -HCG level during 6 weeks post dilatation and curettage. Four weeks after D and C, the β -HCG concentration value returned to normal and vaginal ultrasound showed dilated cervix without trophoblastic tissue and vascular echo-pattern.

Discussion

Cervical ectopic pregnancy is a rare condition that could be life threatening if it is not diagnosed and treated well in time.

Diagnosis of cervical ectopic pregnancy is based on the result of ultrasound. It shows empty uterus with a gestational sac in the cervical canal with or without peritrophoblastic blood flow [1].

Treatment choices may be radical or conservative. When radical, a hysterectomy is usually performed, when hemorrhage occurs as an emergency situation [1]. The conservative approach may be surgical or

medical. Surgical approach implies hypo gastric or uterine artery ligation or embolization, curettage with or without cerclage, or the insertion of a Foley catheter balloon in cervical canal bed [1]. Medical treatment may be systemic or local intra-sac injection of MTX, local intra-sac injection of potassium chloride and diluted vasopressin injection deeply, in different points of cervix [1-3].

Pasqual, et al. treated a twin of eight gestational week cervical ectopic pregnancy with administration of 50 mg MTX in each gestational sac under ultrasound guidance, no adverse effects were seen after the procedure, the patient discharged and was followed by daily vaginal ultrasound and measurement of β -HCG levels every 3 days. Forty days later, she encountered vaginal bleeding and underwent cervical curettage. She received blood transfusion during procedure. Eight months later, Hysteroscopy showed partial adhesion in left lateral side of her uterus. Finally the patient achieved normal pregnancy using IVF protocol and delivered vaginally a normal male fetus at 42 weeks of pregnancy [1].

Taylor et al. reported fertility preservation in four cases with cervical ectopic pregnancy between six to seven weeks of gestation. The mean diameter of gestational sac in all patients was below 30x30 mm. All the patients were treated conservatively with single dose of systemic MTX, except one patient who received extra dose of MTX, due to high levels of β -HCG (52,430 IU/l) and another patient underwent uterine artery embolization owing to persistent high HCG levels and fetal heart activity which followed by dilatation and curettage, however the uterus was preserved in all patients [2].

Petousis et al., reported a 54 day, cervical ectopic pregnancy without cardiac activity which was treated successfully with 50 mg/m² MTX intramuscularly in combination with intra amniotic injection of 2 meq/ml KCL. No curettage or any intervention was necessitated [3].

Hwang et al., presented a five -week cervical ectopic pregnancy with heavy bleeding which was managed conservatively with local vasopressin injection into cervix to control the bleeding and systemic MTX injection, this procedure lead to passage of gestational sac, uterine preservation and return of normal menstruation [4].

Chaudhary et al., presented a conservative management in two cases of cervical ectopic pregnancy, the first case was an early pregnancy, she was treated successfully with systemic MTX, the other case was an 11th week of gestation which was treated with combination of systemic MTX and uterine artery embolization. However this patient required hysterectomy based on sudden massive bleeding on day 22 of intervention [5].

Fertility preserved in all above reported cases by conservative management except in one patient. She had advanced cervical ectopic pregnancy (11 weeks) which required hysterectomy due to massive vaginal hemorrhage, 22 days after UAE. It is evident that whenever pregnancy progresses and diameter of gestational sac and β HCG titer increases, the chance of fertility preservation decreases, so early diagnosis and treatment are mandatory. All of the above pointed cases had gestational ages below eight weeks and the size of trophoblastic masses were under 30x30 mm, except one case who was at her 11th week of gestation and in spite of systemic MTX injection and uterine artery embolization, she needed hysterectomy.

This case report is an advanced cervical ectopic pregnancy with a large size of trophoblastic tissue (70x62 mm) and high titer of β HCG, which was managed conservatively using a combination of several methods including: intra sac and intramuscular injection of MTX,

injection of diluted vasopressin in the location of cervical vessels branches, tampon of cervical bed by balloon of Foley catheter and finally dilatation and curettage, which resulted in uterine preservation. It seems that even in advanced cervical ectopic gestation, utilization of several methods, could result in successful management of the uterine preservation. It is better to do elective cervical curettage later in time, when vascular trophoblastic pattern disappears completely in Doppler ultrasound. To our knowledge this case is the first report of advanced cervical ectopic pregnancy on 12th week of gestation with successful conservative management. Just now, she has become pregnant using ICSI and is on 20th week of gestation (about eighteen months after D and C).

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