Successful Management of a Cervical Pregnancy with Methotrexate by Systemic Route in a Intraamniotic Methotrexate Resistant Pregnant: Case Report

Servikal Gebelikte İntra-Amniyotik Metotreksat Tedavisine Dirençli Olguda, Başarılı Sistemik Metotreksat Tedavisi

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ABSTRACT A-23 years-old woman Gravida: 2, Para: 0, Abortion: 1 applied to us with painless minimal vaginal bleeding and delayed menstrual period. The ultrasound imaging performed and in the cervical canal there was a pregnancy which has crown-rump lenght (CRL): 2.3 mm 5 weeks and 5 days and fetal cardiac activity. The same day it was decided to administer intra-amniotically methotrexate (75 mg) under ultrasonographic guidance. Controls of BHCG levels didn't decrease as much as we expected. A single dose of 75 mg of systemic MTX was given on day 15. A case report of diagnosis and successful treatment of cervical pregnancy which is treated systemic MTX after intra-amniotic MTX was described.

Key Words: Pregnancy, ectopic; methotrexate

ÖZET 23 yaşında gravida: 2, parite: 0, abort: 1 olan kadın hasta bize gecikmiş menstrüasyon ve minimal vajinal kanama şikayetiyle başvurdu. Yapılan ultrasonun görüntülemesinde servikal kanalda baş-popo uzunluğu (CRL): 2,3 milimetrelik 5 hafta 5 gün ile uyumlu, fetal kardiyak aktiviteye sahip fetüs mevcttu. Aynı gün hastaya ultrason eşliğinde 75 mg intra-amniyotik metotreksat (MTX) enjeksiyonu yapıldı. Kontrol BHCG seviyeleri düşmedi. Hastaya 15. gününde 75 mg tek doz sistemik MTX verildi. Bu olgu sunumunda intra amniyotik MTX tedavisinden sonra uygulanan sistemik MTX ile başarılı şekilde tedavi edilmiş servikal gebelik tanımlanmıştır.

Anahtar Kelimeler: Gebelik, ektopik; metotreksat

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The incidence of cervical pregnancy ranges from 1 in 2400 to 1 in 50 000 pregnancies, and comprise nearly 0.15% of all ectopic pregnancies.[1] Exact causes of cervical pregnancy are currently unknown. However, there are some conditions which are thought to predispose the patients for development of a cervical pregnancy: History of therapeutic abortion, Asherman's syndrome, previous cesarean delivery, diethylstilbestrol (DES) exposure, leiomyomas and in-vitro fertilization (IVF).[1-3] Ultrasonographic diagnosis criteria for cervical pregnancy include; Ballooned cervical canal, gestational sac in the endocervix, placental tissue in the cervical canal, closed internal os, hourglass uterine shape and normal endometrial stripe.[3] The presenting clinical key symptom is mild to moderate vaginal bleeding after amenorrhea, without cramping abdominal pain. Herein we report a case of

cervical pregnancy, which was successfully treated with systemic Methotrexate (MTX) after intra-amniotic MTX administration.

CASE REPORT

A 23 year-old woman, with gravidity 2, parity 0, and abortion 1 applied to our emergency department complaining of painless vaginal bleeding and delayed menses. On physical examination, her vital signs were stable. Pelvic examination revealed a normal sized uterus, without any pelvic tenderness on palpation. There were no signs of acute abdomen. Quantitative beta-human Chorionic Gonadotropin (b-hCG) level was 4941 mIU/mL.

A transvaginal ultrasound (TV-USG) scan was performed. A 9x5 mm gestational sac in the cervical canal containing a yolk sac was visualized. The internal cervical ostium was closed. Hospitalization of the patient was planned for further treatment, however she did not accept admission. The patient and her husband were fully informed about the clinical situation and possible complications that may arise.

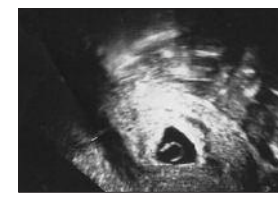
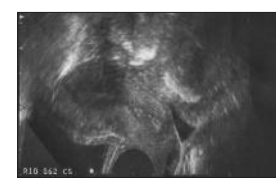
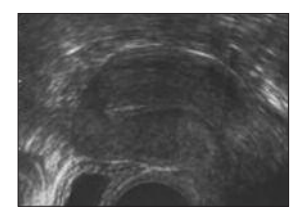
Five days later from the first application, the patient presented again to the emergency department with vaginal bleeding. Her serum Beta-hCG level was 14 100 mIU/mL. TV-USG was performed; a pregnancy within the cervical canal, with a crown rump length (CRL) of 2.3 mm (compatible with 5 weeks and 5 days) and positive fetal cardiac activity was visualized. The patient agreed for treatment this time, and was hospitalized. On the same day, intra-amniotic MTX, 1 mg/m^2 (75 mg) was administered under ultrasonographic guidance. No treatment related toxicity was observed. On day 6 after treatment, the b-hCG level was 8327 mIU/mL, and on day 7 it was 9555 mIU/mL. On TV-USG, the gestational sac size was stable, and there was no fetal cardiac activity. One week later on day 14 (7th day of MTX) B-HCG level was 10790 mIU/mL. Because of increasing b-hCG levels, a single dose of 75mg (50 mg/m2) of systemic MTX was given intramuscularly on day 15.

On day 19, b-hCG level was 2997 mIU/mL. During the weekly follow-up, b-hCG levels continued to decrease and reached 0 mIU/mL on day 36. The TV-USG examination revealed a collapsed gestational sac that completely resolved after menstruation. Beta-hCG levels and ultrasonograpic appearances on application days presented in Table 1. No further vaginal bleeding or any treatment related complications were observed during the follow-up.

DISCUSSION

Cervical pregnancy is a very rare form of ectopic pregnancy. In general, the presenting clinical signs

TABLE 1: Beta-hCG levels and related ultrasonographic findings on treatment course of the patient.

Application day	B-hCG level (mIU/mL)	Ultrasonographic appearance
0	4941 14100	
5	MTX 75 mg (intra-amniotic)	
15	10790 MTX 75 mg (IM)	
21	1900	
31	98	

are delayed menses and painless vaginal bleeding.[4] Although the diagnosis is accurate in most of the cases, an incomplete abortion in the cervical canal should always be ruled out. This may be possible by visualizing fetal cardiac activity (absent in abortion), a regular shaped gestational sac (irregular in abortion) and a closed cervical internal os (open in abortion).[5] A sliding gestational sac when gentle pressure is applied to the cervix is also suggestive of an incomplete abortion. In uncertain cases, a repeat ultrasound on the next day is warranted to define any change of position of the gestational sac. Histologic criteria for diagnosis of a cervical pregnancy have previously been defined, but it has not gained much clinical acceptance since it requires a hysterectomy.[6]

Currently, no universally accepted treatment method exists in the management of cervical pregnancy. In recent decades, primary treatment approach to these cases evolved dramatically. In the past, total hysterectomy was often the only choice of treatment.[7] Today, most hemodynamically stable cases are treated medically using MTX.[4,8] The route of administration may be systemic (single or multidose intramuscular/intravenous), via local intra-sac injection, or a combination of these approaches. In advanced gestations with positive fetal cardiac activity, a combined approach is usually performed; intra-fetal or intra-sac KCl injection followed by intramuscular MTX.[9] In our case, which was diagnosed in an early stage of pregnancy, we preferred intra-sac MTX injection. However this single approach was not adequate and demanded further systemic therapy for complete resolution.

The traditional surgical treatment method in cervical pregnancy has been dilatation and curettage, which is associated with an increased risk of excessive hemorrhage that may subsequently require hysterectomy. However, various surgical and angiographic techniques have been proposed to decrease severe hemorrhage incidence, including bilateral cervical suture placement, cervical cerclage, intra-cervical balloon tamponade, angiographic cervical artery embolization, bilateral uterine or hypogastric artery ligation.[7,9-14]

Non-surgical treatment include; local or systemic metotrexate actinomycin-D and etoposide.[4-6,8,15-17]

Whatever method is selected, early intervention is always recommended to avoid treatment failures.

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