

Intra-amnial methotrexate in cervical pregnancy treatment

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Summary

Cervical pregnancy is an extremely rare condition with potential devastating consequences if not diagnosed and treated early enough. The authors present a case with ultrasound images of early cervical ectopic pregnancy in a woman with a history of previous cesarean section who was successfully treated with intra-amnial methotrexate (MTX).

Key words: Cervical pregnancy; Methotrexate.

Introduction

Cervical pregnancy is extremely rare form of ectopic pregnancy, which is often associated with significant morbidity and endangering influence on future fertility. It accounts for less than one percent of ectopic pregnancies. The incidence is approximately one in 9,000 deliveries [1]. Its etiology is still unclear; chromosomal abnormalities as well as local pathology related to previous cervical or uterine surgery may play a role given an apparent association with a prior history of curettage or cesarean delivery [2]. Also there are reports of association in pregnancies achieved through assisted reproductive technologies; it occurs in 0.1 percent of in vitro fertilization pregnancies [3]. The diagnosis of cervical pregnancy is commonly delayed and is often made intraoperatively 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 [4]. 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. [5].

In this report, the authors present a conservative approach, using transabdominal intra-amnial instilling of methotrexate (MTX) for cervical pregnancy treatment, after unsuccessful intramuscular use.

Case Report

A 33-year-old woman, gravida 3, para 1, was admitted to the present department at six weeks gestation with painless vaginal bleeding. In previous birth, section cesarean was performed, and two years prior she had a miscarriage. Vital signs were stable and the abdomen was soft and not tender. Pelvic examination revealed a barrel-shaped uterine cervix with minimal bright bleeding pro-

truding through a closed external os (Figure 1). 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 2). Quantitative beta-human chorionic gonadotrophin (hCG) concentration was 8,620 mIU/ml on admission, and almost twice that (15,800 mIU/ml) two days later. In an attempt to preserve fertility, the patients offered the patient conservative management with i.m. MTX. The potential risks and alternative methods of treatment were explained to her, and written informed consent was obtained. The most commonly used treatment regimen in the present department was applied. This consisted of i.m. MTX one mg/kg and folinic acid five mg given orally every other day for four days. After completion of treatment, however, the ultrasound examination revealed an unchanged gestational sac size with persistent fetal cardiac activity. On the basis of these findings and the patient's haemodynamically stable state, the authors decided to try direct intra-amnial MTX administration. Under transabdominal ultrasound control, a 22 ga/12 cm needle was placed within the amniotic cavity, ten ml of amniotic fluid were withdrawn, and 40 mg MTX was instilled. After four days the procedure was repeated. During the next few days the beta-hCG level decreased slightly measuring 10,230 mIU/ml at one week, with the concomitant disappearance of fetal cardiac activity. One week later, a collapsed gestational sac was demonstrated (Figure 3).

Six months later hysteroscopy was performed and showed no signs of cervical damage (Figure 4).

Discussion

In the present patient, the fetus was implanted below the previous cesarean section scar. The uterus was empty and the gestational sac showed evidence of fetal heart rate at six to seven weeks in two different ultrasounds. Color Doppler also confirmed blood flow around the gestational sac. Unlike true cervical pregnancy, cervical abortion is suggested by the body of the uterus being larger than in the nongravid state owing to the recent loss of the intrauterine sac. Two ultrasounds in the present patient showed evidence of fetal

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Figure 1. — Minimal cervical bleeding.



Figure 2. — Vital cervical pregnancy.



Figure 3. — Collapsed gestational sac.



Figure 4. — Uterus and cervix six months later.

heart activity and placement of the gestational sac in the cervix below the scar of the previous cesarean section [6]. Patients with cervical pregnancy classically present with painless first trimester vaginal bleeding. Cervix was closed, enlarged, and tender. Estimated gestational age based on last menstrual period was six weeks and two days. A few days should distinguish the cervical abortion by the transience of the sac if the diagnosis is in doubt [7]. Treatment choices may be divided into five categories: tamponade, reduction of blood supply, excision of trophoblastic tissue, intra-amniotic feticide, and systemic chemotherapy [8]. In most reported cases of cervical pregnancy, treatments from more than one category are used [9]. Treatment with MTX chemotherapy in patients with either viable or nonviable cervical pregnancies at < 12 weeks' gestation carries a high success rate for preservation of the uterus. The present authors suggested antimetabolite treatment (MTX), although studies have shown unsatisfactory results if serum beta hCG

is more than 10,000 IU/L, which was the case in the present patient [10]. Cervical pregnancy is a rare condition that can be life-threatening if not diagnosed and treated early during the course of pregnancy. Increasing trend of cesarean sections and use of other invasive methods such as intrauterine device and in vitro fertilization seem to currently contribute to a higher prevalence of cervical pregnancies [11]. Cervical pregnancies require early diagnosis and management which are necessary in preserving patient's fertility without significant complications.

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