Ebru Celik, Salih Burçin Kavak*, Rasit Ilhan, Selcuk Kaplan, Ozgur Arat and Ekrem Sapmaz

An advanced cervical ectopic pregnancy

Abstract: The aim of this paper is sharing our experience in an advanced cervical ectopic pregnancy (CEP), which is managed by conservative surgery. We herein report a case of a 24-week pregnant woman with CEP. She was first referred to a tertiary center due to early starting intrauterine growth retardation and oligohydramniosis. Surgery was planned as soon as the diagnosis of CEP was made. By taking measures to reduce bleeding, conservative surgery was successfully performed, and a hysterectomy was avoided. The fertility of the patient was preserved. The possibilty of CEP must be always be kept in mind, and the exact localization of the gestational sac must be determined in all patients. In advanced pregnancies, ultrasonographic examination must not only focus on examination of the fetus but also focus on the examination of contours of the uterus. These will give us the chance to diagnose CEP as soon as possible and reduce morbidity and mortality.

Keywords: Cervical ectopic pregnancy; intrauterine growth retardation; second trimester.

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Introduction

The incidence of cervical ectopic pregnancy is approximately 1 in 9000 deliveries. Its etiology is unclear; however, there are reports of association with a prior history of procedures that damage the endometrial lining, such as a cesarean section, *in vitro* fertilization, usage of intrauterine device, curattage and chromosomal abnormalities [1].

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Early diagnosis is important because it can be a significant treatment to the fertility and life of the patient.

To the best of our knowledge, this is the first case of a 24 weeks' cervical ectopic pregnancy (CEP) successfully managed by conservative surgery.

Presentation of the case

A 29-year-old woman gravidity 2 with a history of one cesarean section was referred to our clinic with the diagnosis of intrauterine growth retardation (IUGR). She had regular follow up in another clinic. Her last menstrual period was 23 weeks 4 days prior. An ultrasound examination revealed a fetus with IUGR (abdominal circumference:18W), oligohydramnios and loss of the diastolic blood flow of the umbilical artery. A low lying placenta was present. Loss of the fetal heart activity was observed 3 days later. A detailed ultrasonographic examination revealed that pregnancy was localized under the isthmic region and fundus of the uterus was empty. CEP was the diagnosis (Figure 1).

A laparotomy was planned. A vertical incision was done to reach the abdomen, and the diagnosis of cervical pregnancy was confirmed (Figures 2 and 3).

To reduce profuse hemorrhage, aortic suspension at the level of aortic bifurcation was performed. (A 1 mL heparin was administered and 2 min later; the aorta was suspended.) Additionally, a Penrose drain tourniquet was applied with the isthmic region. After dissection of the bladder, a transverse incision was done just under the isthmic region. The 240 g fetus and placenta were removed. An intracervical foley catheter was applied and inflated with 300 mL saline. The procedure lasted approximately 25 min. No blood transfusion was needed. The patient was discharged on postoperative day 5. After 7 months, the patient's uterus was normal in the transvaginal ultrasound (Figure 4).

Discussion

CEP accounts for <1% of all ectopic pregnancies [2]. With an increasing trend of cesarean section, assisted

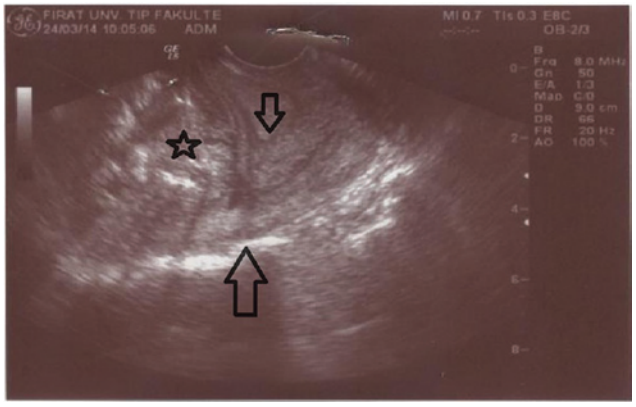

Figure 1: The ultrasonographic examination of the cervix. (The arrows show the lower part of the cervix, and the star shows the fetus.)

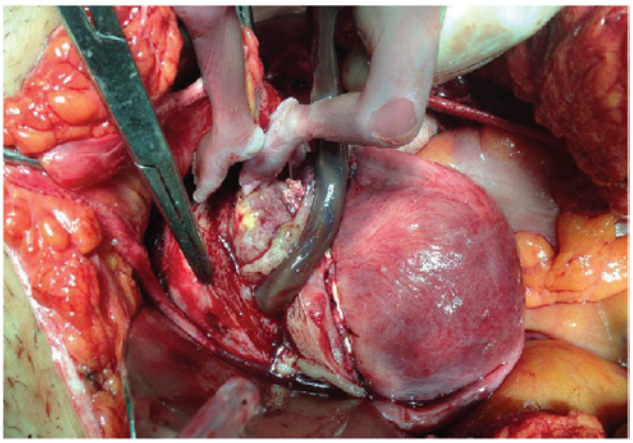

Figure 3: Another intraoperative image of the case.

reproductive technology and other invasive methods, the incidence of CEP is expected to increase. In our patient, cesarean section history was the only known predisposing factor.

All health care providers dealing with pregnant women should remember this entity in the differential diagnosis of vaginal bleeding. For accurate diagnosis, the sonographer should be familiar with the distinctions between CEP, cervical abortion and early intrauterine pregnancy. Diagnosis of CEP can be easily made by observation of fetal cardiac activity in a gestational sac localizing below the internal os, but diagnosis can be difficult in early pregnancies without fetal cardiac activity. In a cervical abortion, the gestational sac is crenated, the internal os dilated and the uterus is larger. The endometrial cavity in the CEP shows only an endometrial echo caused by decidual reaction [3, 4]. In 1996, Jurkovic et al. defined two additional ultrasonographic criteria. Upon application of gentle pressure on the cervix with a probe, gestational sac (GS) of an abortus material slides within the cervical canal whereas an implanted cervical pregnancy does not slide [5]. The second criterion is the observation of peritrophoblastic blood flow by color Doppler ultrasonography on CEP [6].

Painless vaginal bleeding is the most common symptom of CEP, but observation of abdominal pain or cramping is seen in 8.3%–40% of patients with cervical

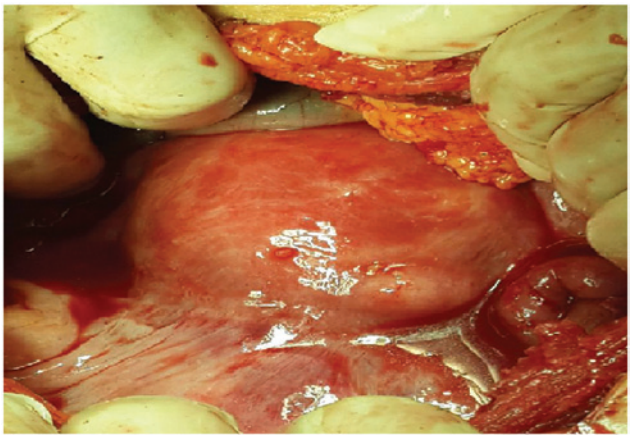

Figure 2: The intraoperative image of the case.

Figure 4: The ultrasonographic examination of the uterus 7 months later.

ectopic pregnancy [3, 7]. No vaginal bleeding was observed in our case.

Until the first report of an ultrasound picture of CEP in 1978 by Raskin, hysterectomy was the only treatment method because diagnosis of CEP was mostly made when uncontrolled bleeding followed curettages performed when CEPs were misdiagnosed as incomplete abortions [8]. After then early diagnosis allowed the development of various strategies to preserve fertility.

No concensus about management currently exists. Conservative approaches in first trimester include methotrexate, local potassium injection, dilatation and curettage or amputation of the cervix that can be associated with measures to control bleeding such as balloon tamponate or uterine artery embolization [1, 7].

There is a lack of information in the literature on the management of advanced CEP. Most published data recommend hysterectomy for cervical pregnancies after 12 weeks' gestation. In the literature, we found only a 20 weeks' CEP succesfully managed conservatively. We succesfully performed conservative surgery by taking measures to a avoid massive hemorrhage.

In summary, a first trimester ultrasound examination should include the determination of the exact localization of the gestational sac. Also ultrasonographic examinations in all trimesters should include the examination of tissues outside the fetus so that an empty uterus can be observed. In today's clinical practice, hysterectomy should not be a first line management option for even advanced CEP, especially for those desiring to preserve their fertility.

Disclosure

This study was presented in the 11th Congress of the Mediterranean Association for Ultrasound in Obstetrics and Gynecology 2014, in Turkey.

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