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CERVICAL ECTOPIC PREGNANCY: A RARE SITE OF IMPLANTATION

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Abstract—Background: Cervical ectopic pregnancies are rare, comprising < 1% of ectopic pregnancies, and life threatening if there is a delay in treatment or a misdiagnosis. **Case Report:** This case report describes a presentation of cervical ectopic pregnancy. **Why Should an Emergency Physician Be Aware of This?:** This case report reviews nonsurgical and surgical treatment options for patients with cervical ectopic pregnancies. © 2019 Elsevier Inc. All rights reserved.

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INTRODUCTION

An ectopic or extrauterine pregnancy is one where a fertilized ovum implants outside the endometrial lining of the uterus. Cervical ectopic pregnancies are rare, comprising < 1% of ectopic pregnancies. The incidence appears to be increasing in recent years, with reports varying between 1 in 8600 and 1 in 12,400 pregnancies due to assisted reproductive technologies. To be diagnosed as a cervical ectopic pregnancy, two criteria must be met: 1) cervical glands are opposite from the site of placental attachment, and 2) a portion of, or the entire, placenta is found below the uterine vessels or the peritoneal reflection on the uterine surfaces (1). They are associated with a high morbidity and mortality if there is a

delay in treatment or missed diagnosis as they have the potential for massive hemorrhage, which could lead to hysterectomy and even death (2,3). Cervical ectopic pregnancy can be misdiagnosed as low intrauterine pregnancy or threatened miscarriage. This case aims to identify a case of cervical ectopic pregnancy and review treatment options and outcomes.

CASE REPORT

A 21-year-old G1P0 woman at 4 weeks 3 days by last menstrual period presented to the Emergency Department (ED) with heavy vaginal bleeding for 3 days. She had been passing clots intermittently, changing her pad eight times over a 12-h period, reporting several episodes of lightheadedness, and intermittent crampy lower abdominal pain. The patient was unaware she was pregnant, as a home pregnancy test had come back negative. Urine chorionic gonadotropin was positive in the ED. Her past medical and past surgical history was noncontributory, denying a history of sexually transmitted infections or abnormal pap smears. She had no pertinent social or family history, and was not taking outpatient medications or vitamins.

Initial vital signs were: temperature 37.4°C (99.3°F), blood pressure 123/71 mm Hg, pulse 83 beats/min, respiratory rate 18 breaths/min, SpO₂ 98% on room air, weight 101.2 kg (223 lb, 1.7 oz), and body mass index 41.58 kg/m². On physical examination the patient



Figure 1. Ultrasound of cervical ectopic pregnancy.

appeared well and in no acute distress, with an abnormal pelvic examination, including removal of a quarter-sized clot from her vaginal vault, a small clot in her cervical os, and no active bleeding. Her uterus was measuring 6–8 weeks, and she had left adnexal tenderness and cervical motion tenderness on bimanual examination.

Her laboratory values were within normal limits, with a hemoglobin of 13.9 GM/DL. Serum beta-human chorionic gonadotropin (beta-hCG) was 10,384 MIU/mL. Her blood type was A positive. A transvaginal ultrasound revealed findings concerning for an ectopic gestational sac within the cervix/inferior portion of the lower uterine segment with cardiac activity documented at 111 beats/min.

The radiologist called the emergency physician with findings concerning for live cervical ectopic gestation. Obstetrics was consulted and the patient was admitted for further work-up. A repeat ultrasound and magnetic resonance imaging pelvis confirmed that the pregnancy was cervical and the fundus was empty (Figures 1 and 2). Intramuscular methotrexate 1 mg/kg/dose was administered. She was discharged home with instructions to return for intramuscular methotrexate every other day \times 4 doses, leucovorin 10 mg (leucovorin rescue) on the off days and serial serum beta-hCG until the level was undetectable.

Initially, the patient’s beta-hCG steadily increased, and a discussion took place about surgical management

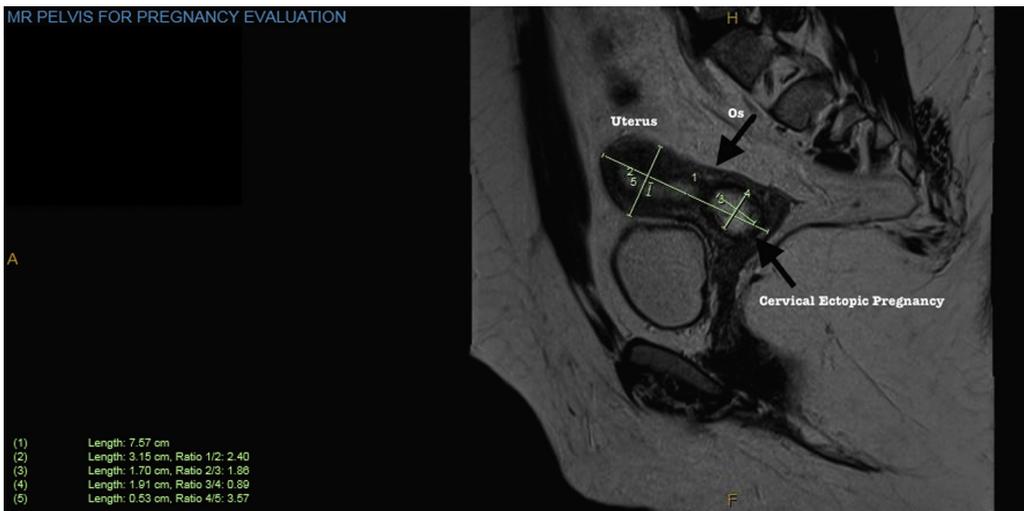


Figure 2. Magnetic resonance image of cervical ectopic pregnancy.

of suction curettage with uterine artery embolization prior to the procedure. However, on Day 7 of the treatment regimen, her beta-hCG dropped by 18% and she was followed by weekly hCG draws until they were < 2.

DISCUSSION

As in this case, the most commonly used treatment in hemodynamically stable women with a first-trimester cervical pregnancy is nonsurgical management with systemic methotrexate (4). Within the nonsurgical management, two treatment regimens include a single-dose and multi-dose regimen with leucovorin rescue. Other treatment options include the addition of intraamniotic or intrafetal injection of potassium chloride when fetal cardiac activity is present, and surgical interventions including suction curettage or hysterectomy with or without preoperative uterine artery embolization to limit intra- and postoperative bleeding (1). Due to limited case reports and a small number of cases of cervical ectopic pregnancy, the most effective treatment is still unclear (5).

WHY SHOULD AN EMERGENCY PHYSICIAN BE AWARE OF THIS?

Cervical ectopic pregnancies occur when the blastocyst implants in the endocervical canal below the level of the internal os. To be diagnosed as a cervical ectopic pregnancy, two criteria must be met: 1) cervical glands are opposite from the site of placental attachment, and 2) a portion of, or the entire, placenta is found below the uterine vessels or the peritoneal reflection on the uterine surfaces (1). It is a rare and life-threatening condition if not managed appropriately, due to the risk of massive hemorrhage and subsequent increase in morbidity and mortality. It often can be misdiagnosed as a threatened

miscarriage, which would be managed quite differently than a cervical ectopic pregnancy (i.e., expectantly, medical management with misoprostol, or surgical with dilation and curettage vs methotrexate or surgical management with wedge resection or hysterectomy, respectively) (6). There were zero reported cases in a 10-year population-based study of 1800 cases in 2001 (7). The number of reported cases has increased since 2001 partly due to the increased use of assisted reproductive technologies. The exact mechanism of cervical ectopic pregnancy is unknown, however, a risk factor unique to this type of extrauterine pregnancy is history of dilation and curettage in a prior pregnancy. Unlike other reported cases, this patient was never pregnant, and had no contributing medical history. Future research may benefit from determining a universal protocol for safe and effective management of cervical ectopic pregnancies.

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