

CERVICAL ECTOPIC PREGNANCY WITH MASSIVE BLEEDING: A CASE REPORT

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ABSTRACT

Introduction

A 29-year-old patient with cervical ectopic pregnancy (CEP) presented as "suspected" cervical mass, and irregular vaginal bleeding was directed to a gynecologic oncologist for consultation.

During the examination a massive bleeding occurred. After an unsuccessful attempt to stop the bleeding with a balloon catheter and vaginal tamponade, a total abdominal hysterectomy was performed. The predisposing factors, the differential diagnostic possibilities and the clinical approaches in CEP are discussed. Total abdominal hysterectomy is the procedure of choice for treatment of cervical pregnancy under conditions of urgency and life-threatening bleeding.

KEYWORDS cervical ectopic pregnancy; massive bleeding, hysterectomy

Introduction

Implantation of the fertilized ovum in the cervical mucosa and the development of pregnancy in that unfavorable place is an extremely rare phenomenon. The majority of the ectopic pregnancies (EP) (95%) are in the fallopian tubes [1]. The incidence of cervical ectopic pregnancy (CEP) ranges from 0.005% to 0.1% [2]. The Mayo Clinic reported 1 CEP in 16,000 pregnancies [3].

Recently the rate of cervical pregnancy has increased, which can be explained by the most frequent use of assisted reproductive techniques and transvaginal ultrasound examination [4, 5]. Despite the diagnostic possibilities of the contemporary

medicine, a certain number of CEP are recognized late (37.5%), which limits the conservative organ-sparing treatment [1].

In the present report, the diagnosis and subsequent treatment of a case of cervical pregnancy with life-threatening genital bleeding are described.

Case Report

A 29-year-old woman (para 1) with "suspected" cervical mass was directed by a physicians' general practice to an oncogynecologist for a consultation. Over the past eight weeks, she had a scarce irregular vaginal bleeding, which a few days back had increased. The patient's history is with one normal birth and three abortions. The vaginal examination found "barrel" enlarged cervix with dimensions 40x40 mm. The external orifice of the cervical canal was partially open and bleeding "tumor masses" prolapsed through it. Immediately after the insertion of a vaginal speculum for inspection, profuse hemorrhage from the area of the uterine cervix began. An abortive attempt to stop the bleeding with a balloon catheter and subsequent vaginal tamponade was done. The measured blood loss over a period of 20 minutes from the beginning of the bleeding was estimated at 900 ml. The patient was transferred for emergency surgery to the operating room, and a total abdominal hysterectomy was performed, preserving the adnexa. Laboratory parameters took 20 minutes before and 20 minutes after the surgical procedure

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are presented in Table 1. Hemotransfusion of 542 ml packed red blood cells was done.

The postoperative period passed without complications. The patient was discharged on the third day after surgery.

	Before Surgery (20 min)	After Surgery (20 min)
Hemoglobin g/l	117	88
Erythrocytes 10 (12) /l	3.8	2.8
Hematocrit L/l	0.35	0.26
WBC 10 (9) /l	10.5	21.7
Platelets 10 (9) /l	330	298

Table 1 Complete blood count results before and after surgery

The macroscopic view of the operative specimen is presented in Figure 1 and Figure 2. The uterine size is 85x65 mm. The thickness of the myometrium is 30 mm. The internal orifice of the cervical canal is closed. In the wall of the cervical canal, just above its external orifice, an oval formation 30x25 mm is located. It has a soft consistency, colorful section surface (hemorrhagic and whitish regions) and fine-papillary areas (Figure 1, Figure 2). The microscopic examination confirmed the clinical diagnosis - cervical pregnancy (Figure 3, Figure 4).

Discussion

The reasons for implantation of the fertilized egg in the cervical mucosa are not completely understood. The accelerated migration of the blastocyst through the uterine cavity, the unfavorable conditions for the implantation in the endometrium and damage of the cervical canal are discussed as predisposing factors [6, 7, 8]. In 63% of the cases with cervical pregnancies, there is data for previous dilatation and curettage [1]. A progress of in vitro fertilization technology is another important reason [1]. Pelvic inflammatory disease, intrauterine devices, endometrial ablation, parity above two, cesarean section, uterine fibroids, and congenital anomalies of the uterus also increase the risk for development of cervical pregnancy [1, 7, 8]. The three abortions in our patient's history are a probable predisposing factor for the occurrence of an ectopic pregnancy.



Figure 1: "Barrel" enlarged cervix. Chorionic villi are visualized, prolapsing from the external orifice of the cervix canal.

Shan et al. consider three groups of diagnostic criteria for CEP:

1. Clinical signs and symptoms;
2. Gynecological examination standards
3. Serum beta-hCG assessment and ultrasound examination [1]

It is more probable a combination of recurrent vaginal bleeding without pain, enlarged cervix like barrel and serum hCG levels lower than those in healthy pregnancy to be observed [1]. In a meta-analysis of 89 patients with cervical pregnancy Ushakov et al. report for vaginal bleeding in the majority of the cases (91%), while the abdominal pain occurred less often (26%) [6]. This type of ectopic pregnancy is usually disturbed during the first trimester, although there is a published case of a live fetus in the 35-th gestational week [9].

The ultrasound visualization of the gestational sac in the cervical stroma in the absence of such in the uterine cavity, are important criteria for the diagnosis of CEP. The proof of an embryo with a heart activity is a pathognomonic sign [10]. It should be noted that the gynecological examination, in itself, can cause a severe bleeding. Thus, it must be performed very carefully.

In our case, we did not perform the diagnostic analysis of serum hCG and ultrasound because of an emergency hemorrhage.

Saeng-anan et al. present a similar case of a cervical pregnancy and massive bleeding. The authors managed to control the bleeding with Bakri surgical, obstetric balloon tamponade temporarily, but, even though, they end up performing a total abdominal hysterectomy as a definitive treatment [11].

Since CEP is a rare condition, its diagnosis creates serious difficulties in practice. It can be confused with other pathologies such as heterotopic pregnancy, incomplete abortion, nabotian cyst and cervical mass [12].

Normal pregnancy with low uterine implantation and pregnancy on a cesarean scar may also be included in the differential diagnosis [1, 12].

An interesting case is presented by Sorbi et al., where cervicoisthmic chorioncarcinoma is visualized as a cervical mass in the scar of a previous cesarean section, which was misdiagnosed as scar ectopic pregnancy [13].



Figure 2: Specimen of the uterus and cervix with parts of the fetus in the cervical canal and their absence in the uterine cavity.

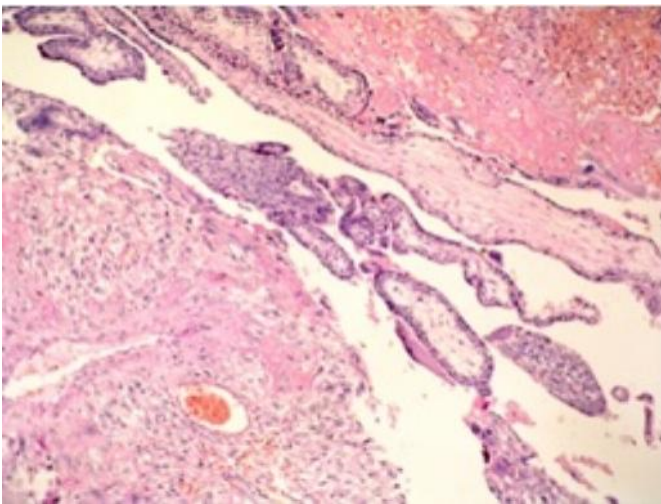


Figure 3: Specimen of the uterus and cervix with parts of the fetus in the cervical canal and their absence in the uterine cavity.

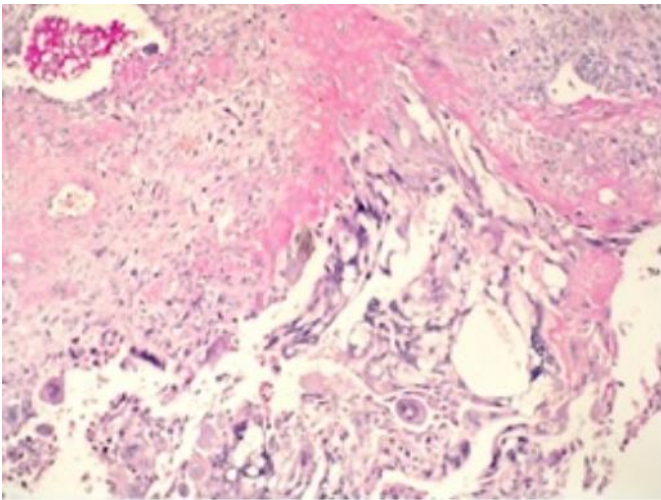


Figure 4: Cyto- and syncytiotrophoblastic elements infiltrating the cervical wall and reaching an endocervical gland (upper left corner). Decidualization and fibrinoid changes in the endocervical stroma (PASx25).

In our case, the diagnostic difficulties are of opposite nature. Acyclic vaginal bleeding and enlarged cervix misled the physician from the general practice, directing him to the wrong diagnosis of "cervical tumor".

The treatment options in CEP are determined by the timely diagnosis and can be conservative or operative. Conservative treatment achieves good results before 12 weeks' gestation, as the invasion of trophoblast cells in the wall of the cervical canal is not deep enough [14]. Methotrexate administered systemic or locally, has a high efficiency (80%) [15]. The combined administration of mifepristone and methotrexate gives better results than the use of methotrexate alone [16].

Most authors suggest intrafetal or intra-amniotically potassium chloride (KCl) injection [11, 12, 17], as well as the combination of local treatment and systemic administration of methotrexate [11].

More invasive organ-sparing approaches are curettage of the cervical canal and the uterine cavity after methotrexate and KCl administration [17], balloon catheter tamponade [6, 11] and uterine artery embolization [18]. The cervix is richly vascularized. It consists of primarily connective tissue and is deficient in muscle fibers. This structural feature is a prerequisite for difficulty to reach permanent hemostasis. For that reason, the favorable outcome in CEP is directly dependent on the time of diagnosis.

Late or incorrect initial diagnosis and uncontrolled hemorrhage may lead to considering total and subtotal hysterectomy [1]. The massive bleeding caused by the gynecological examination in our patient demanded performing a total abdominal hysterectomy after appropriate resuscitation.

Conclusion

Early diagnosis is a necessary condition for successful application of conservative medicamentous treatment or minimally invasive surgical approaches, preserving patient's fertility. In a state of emergency and life-threatening bleeding, total abdominal hysterectomy is the treatment of choice.

Authors' Statements

Competing Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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