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OPIS PRZYPADKU CASE REPORT

Laparotomy and hysterectomy performed due to massive hemorrhage in patient with cervical pregnancy – case report

Laparotomia i histerektomia wykonane z powodu masywnego krwotoku u pacjentki z ciążą szyjkową – opis przypadku

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ABSTRACT

A 40-year-old woman, gravida 5, para 3, at an estimated 9 weeks gestation, after three caesarean sections, was admitted to the Department of Gynaecology, Obstetrics and Oncological Gynaecology due to an ectopic pregnancy located in the cervix. On the fifth day of hospitalization, massive vaginal hemorrhage occurred. An unsuccessful attempt was made to evacuate the gestational sac via the vaginal route, ending with an urgent laparotomy and hysterectomy.

KEYWORDS

cervical pregnancy, ectopic pregnancy, hysterectomy

STRESZCZENIE

40-letnia kobieta, w dziewiątym tygodniu ciąży piątej, po trzech porodach przez cesarskie cięcie, została przyjęta na Oddział Ginekologii, Położnictwa i Ginekologii Onkologicznej z rozpoznaniem ciąży pozamacicznej zlokalizowanej w szyjce macicy. W piątej dobie hospitalizacji wystąpił masywny krwotok z dróg rodnych. Podjęto nieskuteczną próbę ewakuacji jaja płodowego drogą pochwową, zakończoną pilną laparotomią i histerektomią.

SŁOWA KLUCZOWE

ciąża szyjkowa, ciąża ektopowa, histerektomia

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INTRODUCTION

Cervical pregnancy (CP) is extremely uncommon, accounting for less than 1% of all ectopic pregnancies (EPs). In course of CP, the embryo implants and grows below the internal opening of the cervix [1]. Despite the rarity of CP, its prevalence is on the rise owing to the increased infertility treatments and invasive procedures, such as curettage and caesarean sections (CSs) [2,3]. Patients typically report painless vaginal bleeding. A higher level of beta-human chorionic gonadotropin (B-hCG) may indicate an abnormally located pregnancy, but the diagnosis requires further diagnostics, primarily imaging. Ultrasound (transvaginal and transabdominal) is commonly employed, and in cases of ambiguity, magnetic resonance imaging is utilized. Treatment of CP can be divided into conservative and surgical. Conservative includes pharmacological treatment (systemic or intra-amniotic methotrexate, with or without intra-amniotic potassium chloride) or expectancy [4]. This type of treatment can be chosen only if the patient consents to this method, is pain free, hemodynamically stable, serum B-hCG before treatment is less than 5000 mUI/ml, ectopic mass size is less than 4 cm in largest diameter, there is no ultrasound evidence of fetal heart activity, no concomitant intrauterine pregnancy, and no known sensitivity to methotrexate [4,5]. Curettage due to the risk of hemorrhage is most often used in combination with mechanical methods (cervical artery ligation, tamponade) [4]. Resection of CP is also possible using hysteroscopic or laparoscopic techniques with or without hemostatic management and laparoscopic uterine artery embolization [1]. Hysterectomy remains the method of choice in case of uncontrolled hemorrhage [4].

We report a case of a patient with EP in the area of cervix or CS scar, who failed hysteroscopic resection and underwent an urgent laparotomy and hysterectomy due to massive hemorrhage.

CASE REPORT

A 40-year-old woman, gravida 5, para 3, with three previous CSs and history of one spontaneous abortion was admitted to the Department of Gynaecology, Obstetrics and Oncological Gynaecology. The reason for admission was the diagnosis and treatment of an unspecified EP, which was suspected to be present in either the CS scar or the cervix. The patient's medical history included curettage of the uterine cavity after a miscarriage. There were no chronic diseases, allergies, alcohol consumption and nicotine addiction in patient's history. Body mass index was normal. B-hCG level

primary was 14.879 IU/l, whereas two days later, it was 16.948 IU/l. There were no abnormalities in laboratory tests. The peripheral blood count revealed a hemoglobin (Hb) level of 13.5 g/dl, red blood cells (RBC) 4.57 mln/µl, white blood cells (WBC) 7.2 G/l, and hematocrit (HCT) 39.2%. Electrolyte levels and coagulation parameters were normal. On the second day of hospitalization, the patient reported painless bleeding. The transvaginal ultrasound showed the presence of a gestational sac (GS) with an embryo located in the cervical canal at the level of the internal os. The crown--rump length (CRL) was 28 mm. Gestational age calculated from the GS was estimated at 9 weeks and 4 days. Embryo cardiac activity was present with fetal heart rate (FHR) 132 bpm. Because of the proximity of the CS scar and cervical canal, the implantation of pregnancy within a CS scar was not possible to exclude. The cervix was found to be distended, numerous hypoechoic spaces were observed around the GS, and there was a significant increase in microvascular flow imaging (MV-Flow) around the GS (Figures 1 and 2). As the patient initially did not consent to the termination of the pregnancy, she was informed about possible complications. On the fifth day of hospitalization, heavy vaginal bleeding occurred. An ultrasound examination of the uterus revealed a distorted GS with an abnormal shape in the cervical area with no FHR. A significant vascularization with vascular invasion was evident in the area of CS scar and cervix. The cervix was dilated to 5.5×4.7 cm. A small amount of free fluid was observed in the pouch of Douglas. No fluid was detected in the Morrison's pouch, left renal lining, spleen, or between intestinal loops. The patient was qualified for surgery. Urgently, an attempt to hysteroscopic removal of the CP was made. Approximately 1000 ml of blood with clots was evacuated from the vagina. A distended, cyanotic, actively bleeding cervix was found. Due to the significant bleeding and difficulties in evacuation, which indicate a significant infiltration of the GS into the cervix, and the deteriorating general condition of the patient, it was decided to perform an urgent laparotomy and hysterectomy. The embryo was found to be growing into the cervical smooth muscles. A total of 100 ml of blood was present in the pouch of Douglas. There was a small amount of endometriosis on the surface of the left ovary, which had been coagulated. A cyst measuring 3 cm in diameter was surgically removed from the right ovary.

The fallopian tubes remained unchanged bilaterally. Adhesions were dislodged, the fallopian tubes and uterus were surgically removed. The material (fallopian tubes, uterus, right ovarian cyst) was examined histopathologically and the GS was collected for genetic testing at the patient's request.

The patient exhibited a favorable general state subsequent to the surgical procedure. The morphology at that time was: Hb level 9.0 g/dl, RBC 3.02 mln/µl,



WBC 19.9 G/l, and HCT 26.6%. She received three units of packed red blood cells. The Hb level increased to 11.9 g/dl, RBC 4.23 mln/µl, HCT 37.1%, and WBC decreased to 8.8 G/l. The following drugs were administered: paracetamol, morphine, metamizole, pethidine, ceftazidime, tranexamic acid, lutein, ethamsylate and enoxaparin. The patient was discharged and continued to receive enoxaparin 40 mg

daily. Histopathological examination revealed that the cervical canal contained fragments consistent with embryo, which confirmed CP. The microscopic description of a right ovarian cyst revealed a hemorrhagic corpus luteum. The endometrium displayed signs of dyshormonosis, with focal transformation of the decidua stroma. Genetic testing revealed male genetic sex.



Fig. 1. Microvascular flow imaging around the gestational sac located next to the internal opening of the cervix.



Fig. 2. The gestational sac in the area of caesarean section scar and the cervix. GS - gestational sac; CERV - cervix.

DISCUSSION

The patient's case presented two risk factors of EP history of three previous CSs and curettage of the uterine cavity [3]. She was asymptomatic before hospitalization. The typical symptom of EP (painless bleeding) was not observed until the second day of hospitalization. However, patient's clinical condition deteriorated rapidly and massive bleeding occurred. Obstetric hemorrhage remains the leading cause of maternal mortality and morbidity [6]. EP, including CP, is one of the causes that may lead to massive hemorrhage [7]. This creates the need for a rapid diagnosis and initiation of appropriate treatment. At present, the optimal treatment for CP remains uncertain. Management should be based on international guidelines that consider the patient's medical condition. According to the International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) recommendations, conservative treatment was not appropriate for our patient [4]. Due to the deteriorating condition, after obtaining her consent, a decision was made to terminate the pregnancy by hysteroscopy. Unfortunately, this attempt was unsuccessful. Heavy bleeding led to life-saving laparotomy and hysterectomy.

There are cases similar to the one described [6,8] in which hysteroscopic resection of CP was not possible due to large blood loss. These patients most often

required hysterectomy, traditionally performed abdominally. Alammari et al. [7] described the case of a patient with a CP and vaginal hysterectomy was chosen as the method of treatment. Bartosch et al. [8] reported the case of a woman with painless vaginal bleeding who was diagnosed with CP and underwent abdominal hysterectomy due to placenta accrete. The placenta was entirely located in the cervix and the scar from the previous CS had nothing to do with the EP. Cases of CP complicated by hemorrhage treated without hysterectomy have been described in the literature [9,10]. Hemorrhage from the implantation site was controlled by placing and inflating a Foley catheter balloon in the cervix after dilatation and curettage [9]. There was a case of undiagnosed CP complicated by extensive, painless vaginal bleeding followed by birth of a child and hysterectomy [11].

CONCLUSIONS

CP, although rare in obstetrics, is a serious clinical condition. Rapid diagnosis and treatment are essential due to the risk of sudden deterioration of the patient's condition – from no symptoms to massive uncontrolled hemorrhage. In such cases, urgent surgical intervention is necessary, and hysterectomy remains the method of choice. This case highlights the importance of using international guidelines that enable appropriate management of rare but dangerous cases of CP.

Authors' contribution

Study design – A. Spyra, A. Sierpińska, Ł. Witek, A. Marzec, A. Olejek Manuscript preparation – A. Spyra, A. Sierpińska, Ł. Witek, A. Marzec, A. Olejek Literature research – A. Spyra, A. Sierpińska Final approval of the version to be published – Ł. Witek, A. Marzec, A. Olejek

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