

Unusual case of cervical pregnancy after curettage for a presumptive diagnosis of intrauterine blighted ovum

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Summary

A case of cervical pregnancy after curettage for presumptive intrauterine blighted ovum is presented. The woman was successfully treated by vacuum evacuation and curettage. A 29-year-old woman, gravida 2, nulliparous, was admitted to our department at ten weeks and two days of gestation after a diagnosis of cervical pregnancy. She had been treated by curettage five days before for an initial diagnosis of intrauterine blighted ovum. Ultrasound scan examination revealed a gestational sac without foetus in the cervix four days after the first curettage. Vacuum evacuation and curettage of the cervical canal were performed and a Foley catheter was also inserted and left in place for three days. The patient was discharged in good condition on the fourth postoperative day.

Key words: Cervical pregnancy; Blighted ovum; Obstetric ultrasound.

Introduction

Cervical pregnancy is a potentially life-threatening form of extrauterine pregnancy associated with occurrence of uncontrollable haemorrhage from the uterine cervix [1], significant morbidity and devastating effects on future fertility [2].

Cervical pregnancy accounts for < 1% of all ectopic gestations. Its incidence varies between one in 1,000 to 16,000 pregnancies, with the highest figure reported from Japan, which also has a high incidence of antecedent curettage [3]. Appropriate early diagnosis and treatment lead to remarkable reduction of maternal mortality from 45% [4] to approximately zero [5].

Conservative treatments include curettage and packing, local excision and repair, cervical amputation, cervical cerclage after curettage and bilateral hypogastric ligation [5] or combined curettage and local prostaglandin injection [6]. The treatment with methotrexate (MTX), administered either systemically or locally, has been demonstrated to be an effective definitive therapy to reserve potential fertility in patients with cervical pregnancy [7-10]. Embolization of uterine arteries has also been proposed in order to reduce the risk of massive haemorrhages but has rarely been performed later than the seventh gestational week [11-13].

In this report we present a case of a patient with cervical ectopic pregnancy diagnosed in the 10th gestational week, successfully treated with vacuum evacuation and curettage.

Case report

G.C., a 29-year-old female, gravida II, nulliparous (1 caesarean section), was admitted to our department on December 7,

1999 with a chief complaint of vaginal bleeding for four days. Her last normal menstrual period was September 26, 1999. The day before admission she had undergone a pelvic ultrasound which was consistent with a cervical ectopic pregnancy. The patient at ten weeks and two days of amenorrhea was hospitalised.

The previous ultrasound scan had been performed in the seventh gestational week with an erroneous diagnosis of "blighted ovum" showing a 35 mm intrauterine gestational sac without embryo. Quantitative beta-human chorionic gonadotrophin (HCG) concentration was evaluated three times with the following results: 8,132 mUI/ml on November 11 (6 weeks and 4 days of gestation); 12,500 mUI/ml on November 16 (7 weeks and 2 days of gestation); 8632 mUI/ml on November 26 (8 weeks and 5 days of gestation). On December 2 the patient was submitted to vacuum evacuation and curettage. Histologic examination showed decidua and gestational hyperplastic endometrium. On December 6 the patient was submitted to pelvic echotomography for unexplained vaginal bleeding. Ultrasound transvaginal examination (Toshiba 250) revealed a normal sized uterus with an empty cavity (Figure 1). A 15 mm gestational sac was evident below the closed internal cervical os (Figure 2). The right ovary clearly showed gravidic phenomena (Figure 3) and the gestational sac presented hyperplastic chorial tissue well vascularized at Doppler evaluation (Figure 4).

On December 7 the patient was admitted to our department with painless vaginal bleeding of four days duration. Her obstetric history was remarkable for one previous caesarean section and preceeding spontaneous abortion followed by curettage. Vital signs were stable and the abdomen was soft and not tender. Pelvic examination revealed a barrel-shape uterine cervix with minimal bright bleeding protruding through a closed external os. The uterus was slightly enlarged and mobile. The adnexa were of normal size, freely movable, and not tender. The vulva and vagina were free of disease and the breasts were tender. Transabdominal and transvaginal ultrasound examination (Toshiba 250) confirmed the presence of a cervical pregnancy without foetal pole. Quantitative β HCG concentration was 6187 mUI/ml on admission.

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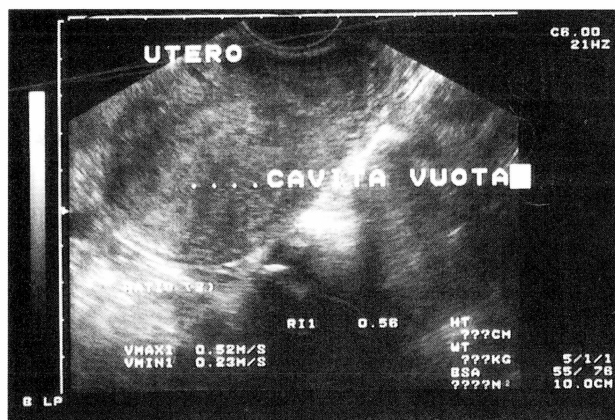


Figure 1. — Normal sized uterus with an empty cavity.

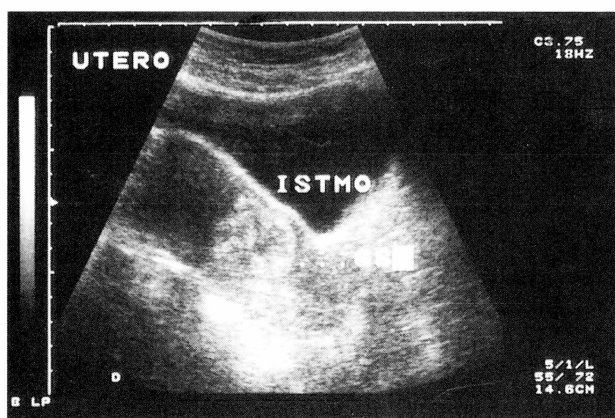


Figure 2. — Gestational sac below the closed internal cervical os.

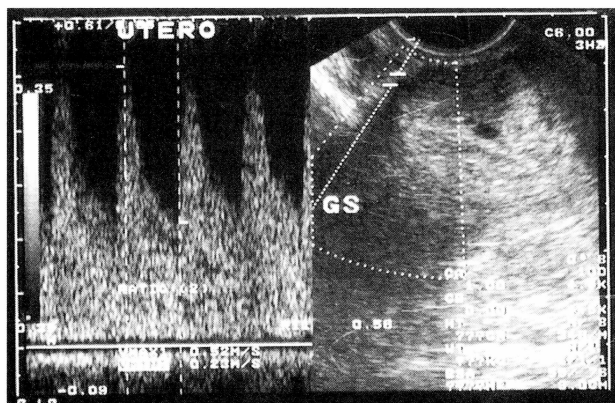


Figure 3. — Doppler evaluation of the hyperplastic chorial tissue.

The potential risks of different choices of treatment were explained to her and written informed consent was obtained. The most commonly used treatment regimen in our department was applied. This consisted of vacuum evacuation and curettage of the cervical canal under ultrasonographic guidance and general anaesthesia. A 24-ml Foley balloon catheter was placed into the cervical canal and vaginal tamponade was left in place.

Histologic examination revealed decidual and chorial tissue with hyperplastic endometrium.

The vaginal tamponade was removed on the second postoperative day and the Foley catheter on the third. On the fourth postoperative day β HCG value was lower than 1000 mUI/ml and the ultrasound scan showed a normal uterine cervix with residual post-abortion vascularization. The patient was discharged in good condition on the fourth postoperative day. Two months after dismissal the patient underwent transvaginal ultrasound which showed a regular cervix with a normal flow at colour Doppler examination. Three months after dismissal she started medical therapy with GnRH analogues for three cycles. The patient is non gravida at the 26th week and a recent ultrasound examination did not show any complications due to the preceding ectopic pregnancy.

Discussion

There are two main treatment options for cervical pregnancy when fertility is desired: surgical and pharmacological. The different methods described include cervical cerclage, intracervical balloon, tamponade of the cervix, vaginal packing, local haemostatic sutures, curettage followed by local prostaglandin instillation, ligation of the descending branches of the uterine arteries and bilateral hypogastric artery ligation [14]. Systemic methotrexate administration combined with intra-amniotic feticide with either methotrexate or potassium chloride appears to be the most common method used to treat cases of viable cervical pregnancy [1].

During surgical treatment of cervical pregnancy the main problem is to achieve an adequate haemostasis; some authors [15] have concluded that preoperative embolization of the uterine arteries appears to be the best method to prevent major bleeding.

Current diagnostic techniques for cervical pregnancy depend on ultrasonographic imaging of the implantation sac within the cervix rather than histopathologic examination [1]. Timor-Tritsh *et al.* [8] stated that the diagnosis of a viable cervical pregnancy could be confirmed only if the following ultrasound criteria were met: the placenta and the entire chorionic sac containing a live fetus was below the internal os; the level of the internal os was considered to be at the level of the insertion of the uterine arteries; the uterine cavity was empty and the cervical canal was significantly dilated and barrel shaped. All these criteria, except the live fetus contained in the gestational sac, were respected in our case.

Doppler imaging provides little additional diagnostic information but it is helpful in monitoring regression of the hypervascular cervix during the follow-up period [16]. Jurkovic *et al.* [15] suggested that the application of transvaginal ultrasonography could help in the differentiation of a false cervical pregnancy from a spontaneous abortion in progress by pressure of the vaginal probe on the cervix. Ultrasonography could be helpful in verifying the execution of curettage in all cases. In our case transvaginal sonography showed vascularization of the gestational sac that certainly excluded the possibility of a false cervical pregnancy. However, some aspects of this case (first diagnosis of intrauterine blighted ovum and performance of the first curettage) remain unclear. It could be

hypothesized that the first curettage did not enter the gestational sac, but then how could we explain the results of the first biopsy? Alternatively, the first curettage might have carried the gestational sac to the cervix, but this seems excluded by the Doppler findings. In conclusion, we think that this case is of interest because it reminds us that cervical pregnancy although very rare, can be a source of clinical error in diagnosis and subsequent therapy.

References

- [1] Kung F. T., Chang S. Y.: "Efficacy of methotrexate in viable and nonviable cervical pregnancies". *Am. J. Obstet. Gynecol.*, 1999, 181, 1438.
- [2] Yitzhak M., Orvieto R., Nitke S., Neuman-Levin M., Ben-Rafael Z., Schoenfeld A.: "Cervical pregnancy – a conservative stepwise approach". *Hum. Reprod.*, 1999, 14, 847.
- [3] Rock J. A., Thompson J. D. (eds.): "Te Linde's Operative Gynecology". 18th edition. Philadelphia, PA, Lippincott-Raven Publishers, 523.
- [4] Rubin J. C.: "Cervical pregnancy". *Surg. Gynecol. Obstet.*, 1911, 13, 625.
- [5] Parente J. T., Ou C. S., Levy J., Legatt E.: "Cervical pregnancy analysis: a review and report of five cases". *Obstet. Gynecol.*, 1983, 62, 79.
- [6] Spitzer D., Steiner H., Graf A. *et al.*: "Conservative treatment of cervical pregnancy by curettage and local prostaglandin injection". *Hum. Reprod.*, 1997, 12, 860.
- [7] Hung T. H., Shau W. Y., Hsieh T. T., Hsu J. J., Soong Y. K., Jeng C. J.: "Prognostic factors for an unsatisfactory primary methotrexate treatment of cervical pregnancy: a quantitative review". *Hum. Reprod.*, 1998, 13, 2636.
- [8] Timor-Tritsch I. E., Monteagudo A., Mandeville E. O., Peisner D. B., Parra Anaya G., Pirrone E. C.: "Successful management of viable cervical pregnancy by local injection of methotrexate guided by transvaginal ultrasonography". *Am. J. Obstet. Gynecol.*, 1994, 170, 737.
- [9] Hung T. H., Jeng C. J., Wang K. G. *et al.*: "Treatment of cervical pregnancy with methotrexate". *Int. J. Gynaecol. Obstet.*, 1996, 53, 243.
- [10] Oyer R., Tarakjian D., Lev-Toaff A. *et al.*: "Treatment of cervical pregnancy with methotrexate". *Obstet. Gynecol.*, 1988, 71, 469.
- [11] Cosin J. A., Bean M., Grow D. *et al.*: "The use of methotrexate and arterial embolization to avoid surgery in a case of cervical pregnancy". *Fertil. Steril.*, 1997, 67, 1169.
- [12] Frates M. C., Benson C. B., Doubilet P. M. *et al.*: "Cervical ectopic pregnancy: results of conservative treatment". *Radiology*, 1994, 191, 773.
- [13] Simon P., Donner C., Delcour C. *et al.*: "Selective uterine artery embolization in the treatment of cervical pregnancy: two case report". *Eur. J. Obstet. Gynecol.*, 1991, 40, 159.
- [14] Ushakov F. B., Elchalal U., Aceman P. J. *et al.*: "Cervical pregnancy: past and future". *Obstet. Gynecol. Surv.*, 1996, 52, 45.
- [15] Jurkovic D., Hackett E., Campbell S.: "Diagnosis and treatment of early cervical pregnancy: a review and a report of two cases treated conservatively". *Ultrasound. Obstet. Gynecol.*, 1996, 8, 373.
- [16] Benson C. B., Doubilet P. M.: "Strategies for conservative treatment of cervical ectopic pregnancy". *Ultrasound. Obstet. Gynecol.*, 1996, 8, 371.

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