HJOG
An Obstetrics and Gynecology International Journal

Case Report

Cervical Pregnancy: A case report

Christodoulaki Chrisi[1], Stratoudakis Georgios[1], Zygouris Dimitrios[2], Kastrinakis Konstantinos[1], Daskalakis Georgios[1], Panagopoulos Perikles[3]

[1] Department of Obstetrics and Gynecology, Chania hospital, Chania, Greece
[2] Department of Obstetrics and Gynecology, Agios Savvas hospital, Athens, Greece
[3] Third Department of Obstetrics and Gynecology, University of Athens Medical School, Attiko University hospital, Athens, Greece

Correspondence
Panagopoulos Perikles
76 Tainarou st, GR - 16561, Athens, Greece
E - mail: panagopoulosperikles@gmail.com

Abstract

Cervical pregnancy is an extremely rare form of ectopic pregnancy. We present a case of a 30 years old patient, diagnosed with cervical pregnancy, in the 7th week of gestation. Initially pharmaceutical treatment was attempted, but due to severe vaginal bleeding the patient underwent surgical therapy. Early diagnosis and prompt treatment lead to a very good outcome minimizing mortality and morbidity.

Key words: cervical pregnancy; extrauterine pregnancy; sonographic criteria; fertility sparing

Cervical pregnancy is an extremely rare form of ectopic pregnancy in which the pregnancy products are implanted in the cervix, accounting for less than 1% of all ectopic pregnancies, with incidence approximately 1 in 9,000 deliveries[1,2]. Cervical pregnancy is more common in pregnancies achieved after assisted reproductive technologies; it occurs in 0.1% of in vitro fertilization (IVF) pregnancies and accounts for 3.7% of IVF ectopic pregnancies[3]. Although its etiology remains unclear, there are reports of association with chromosomal abnormalities, as well as a prior history of surgical procedures that may have damaged the endometrial lining, such as cesarean section and the use of intrauterine device. It is also mentioned that the rapid transfer of the fertilized ovum in the endocervical canal, before implanted and the non receptive endometrium may be responsible for cervical pregnancy.

Case report

A 30 years old woman, nullipara, gravida 1, presented to our department in the 7th week of gestation with painless vaginal bleeding during the last two days. The medical and obstetric history of the patient was clear and the patient was hemodynamically stable.

Gynecological examination revealed a spherically expanded cervix (ballooned cervix) with open external os revealing pregnancy tissue. Transvaginal ultrasound showed a cervical pregnancy: gestational sac in the cervix with positive heart func-

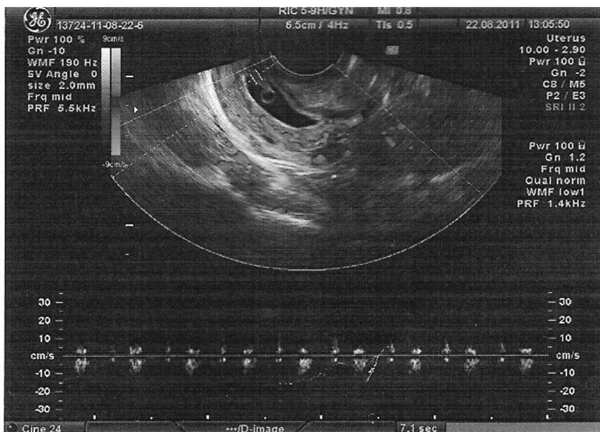

Figure 1. Transvaginal ultrasonography showing gestational sac in the cervix and ballooned cervical canal

tion, estimated gestational age of 6 weeks, and a well - defined empty uterus. The patient wanted fertility preservation and the use of chemotherapeutic agents (methotrexate and leucovorin) was decided. After the first dose of methotrexate the patient had severe vaginal bleeding and the clinical condition began to deteriorate. The patient was transferred to the operating room where she underwent curettage with suction curette. After that the bleeding was significantly controlled and endometrial pad was placed. She was discharged on the third day of hospitalization in good clinical condition without any complication.

Discussion

The most common symptom of cervical pregnancy is vaginal bleeding, which is often painless. On gynecological examination, the external os may be open, with fetal membranes or pregnancy tissue. As we described these typical symptoms were present in our case.

The diagnosis of cervical pregnancy is based on transvaginal ultrasound findings. The empty uterus and the presence of gestational sac below the level of uterine arteries are the most important findings, whereas a barrel - shaped cervix and blood flow around the gestation sac may also be found[4].

The sonographic criteria for diagnosis of cervical pregnancy are depicted in Table 1[4,5]. These sonographic criteria were also present in our case and helped us get the right diagnosis. Two ultrasound examinations were performed by experienced consultants and both found fetal heart activity and placement of the gestational sac in the cervix. Color Doppler also confirmed blood flow around the gestational sac.

The main differential consideration for cervical ectopic pregnancy is an incomplete abortion which is proximal to the cervix.

The therapeutic approach in these cases aims firstly in minimizing the risk of hemorrhage and secondly in fertility sparing during the attempt to eliminate the gestational products. Until now there are no established practice guidelines and the treatment choice should be individualized, depending on the patient's characteristics. The gestational age and the presence of active bleeding and its severity should be taken seriously into consideration, as well as the experience of the doctor in charge and the existing hospital facilities, the patient's desire for fertility preservation and the possible presence of a viable intrauterine pregnancy.

Treatment options for cervical pregnancy vary from conservative therapy with drug administration to radical surgery and can be divided into five categories: tamponade, reduction of blood supply, excision of trophoblastic tissue, intra - amniotic feticide, and systemic chemotherapy (methotrexate with intraamniotic and/or intrafetal injection of local potassium chloride (KCL)). Treatment with methotrexate has a high success rate, ensuring at the same time fertility preservation. Intramuscular methotrexate alone is often adequate for treatment of very early cervical pregnancies, without fetal cardiac activity. In these cases intramuscular approach is more convenient and acceptable for the patient[6-10].

Heavy vaginal bleeding in advanced gestational age may require intra-arterial embolization to control hemorrhage. Dilation and evacuation is a conservative surgical option, with a high though incidence of severe hemorrhage. Additional measures that can be used in women who have excessive bleeding include placement of hemostatic sutures

Table 1. Sonographic criteria for diagnosis of cervical pregnancy [4,5]

Gestational sac or placenta within the cervix
Normal endometrial stripe
Hourglass (figure of eight) shaped uterus with ballooned cervical canal
Barrel - shaped cervix
Blood flow around the gestation sac

locally in the cervix, angiographic embolization, bilateral internal iliac artery ligation, and bilateral uterine artery ligation. Hysterectomy is an option only for women who have completed their family planning. In order to reduce the intraoperative blood loss it can be used uterine artery embolization prior to evacuation of cervical pregnancy[6-10].

Conclusion

Cervical pregnancy is a rare condition that can be life-threatening if not diagnosed and treated early. Chemotherapy administration may be the first line option, but many cases may develop excessive, life-threatening, hemorrhage and a more radical approach must be available instantly.

Conflict of interest

All authors declare no conflict of interest.

References

1. Yankowitz J, Leake J, Huggins G, Gazaway P, Gates E. Cervical ectopic pregnancy: review of the literature and report of a case treated by single - dose methotrexate therapy. Obstet Gynecol Surv 1990;45:405-14.
2. Bouyer J, Coste J, Fernandez H, Pouly JL, Job-Spira N. Sites of ectopic pregnancy: a 10 year population - based study of 1800 cases. Hum Reprod 2002;17:3224-30.
3. Karande VC, Flood JT, Heard N, Veeck L, Muasher SJ. Analysis of ectopic pregnancies resulting from in - vitro fertilization and embryo transfer. Hum Reprod 1991;6:446-9.
4. Hofmann HM, Urdl W, Höfler H, Hönigl W, Tamussino K. Cervical pregnancy: case reports and current concepts in diagnosis and treatment. Arch Gynecol Obstet 1987;241:63-9.
5. Kung FT, Lin H, Hsu TY, et al. Differential diagnosis of suspected cervical pregnancy and conservative treatment with the combination of laparoscopy - assisted uterine artery ligation and hysteroscopic endocervical resection. Fertil Steril 2004;81:1642-9.
6. Hung TH, Jeng CJ, Yang YC, Wang KG, Lan CC. Treatment of cervical pregnancy with methotrexate. Int J Gynaecol Obstet 1996;53:243-7.
7. Sieck UV, Hollanders JM, Jaroudi KA, Al-Took S. Cervical pregnancy following ultrasound - guided embryo transfer. Methotrexate treatment in spite of high beta - HCG levels. Hum Reprod 1997;12:1114.
8. Hung TH, Shau WY, Hsieh TT, Hsu JJ, Soong YK, Jeng CJ. Prognostic factors for an unsatisfactory primary methotrexate treatment of cervical pregnancy: a quantitative review. Hum Reprod 1998;13:2636-42.
9. Monteagudo A, Minior VK, Stephenson C, Monda S, Timor - Tritsch IE. Non - surgical management of live ectopic pregnancy with ultrasound-guided local injection: a case series. Ultrasound Obstet Gynecol 2005;25:282-8.
10. Mitra AG, Harris - Owens M. Conservative medical management of advanced cervical ectopic pregnancies. Obstet Gynecol Surv 2000;55:385-9.