

# Management of first trimester cervical pregnancy with hysteroscopy. A case report

Miguel Ángel Valencia Torres M.D.  
 Oscar Abel Serrano Castro M.D.  
 Valentín Tovar Galván M.D.  
 Jorge Rodríguez Avalos M.D.  
 Lourdes Alejandra Márquez Chávez M.D.  
 Marlenn Alejandra  
 Viguera Hernández M.D.  
 Patricia Marlet Sánchez González M.D.  
 Georgina Guerrero Ambriz M.D.  
 Juan Gustavo Vázquez Rodríguez M.D.

Mexico City, México

## Case Report

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### Background:

The cervical location of ectopic pregnancy has a very low frequency. The associated risk factors are assisted reproductive techniques, cesarean section, spontaneous abortion, uterine curettage, pelvic inflammatory disease, gynecological surgery, previous ectopic pregnancy and the use of an intrauterine device. In the majority of reported cases, the diagnosis is made late. It is generally associated with massive hemorrhage that increases the morbidity and mortality of patients. In these cases, emergency hysterectomy is necessary.

We present the case of a 31-year-old patient with risk factors and a six-week cervical ectopic pregnancy without bleeding identified early by ultrasound. Hysteroscopy was used to successfully resolve the problem. Uterus integrity was achieved without complications. The case illustrates the importance of early diagnosis and hysteroscopy as an alternative technique to resolve cervical ectopic pregnancy and preserve the uterus.

**Keywords:** Cervical pregnancy, ectopic pregnancy, hysteroscopy, uterine bleeding, high-risk pregnancy.

**E**ctopic pregnancy occurs when the implantation of the blastocyst takes place outside the endometrium of the uterine cavity.<sup>1</sup> The cervical location of ectopic pregnancy represents less than 1%. Its epidemiological study is hampered by the infrequency with which it occurs.<sup>2</sup> It is estimated that one case occurs in every 10,000 pregnancies.<sup>3</sup>

Associated risk factors are assisted reproduction techniques, previous cesarean section, spontaneous abortion, uterine curettage, pelvic inflammatory disease, gynecological surgery, previous ectopic pregnancy and the use of an intrauterine device.<sup>2</sup> In the majority of reported cases, the diagnosis of cervical ectopic pregnancy has been made late. It is generally associated with massive hemorrhage due to the proximity of the implantation site to the uterine and cervical arteries.<sup>1,4-6</sup>

Early diagnosis reduces morbidity and mortality in addition to making management possible with less invasive techniques that preserve fertility because they allow the conservation of the uterus.<sup>1,3,5,7</sup> On the contrary, active bleeding and late diagnosis increase morbidity and mortality and generate the need for an emergency hysterectomy.<sup>4,8</sup>

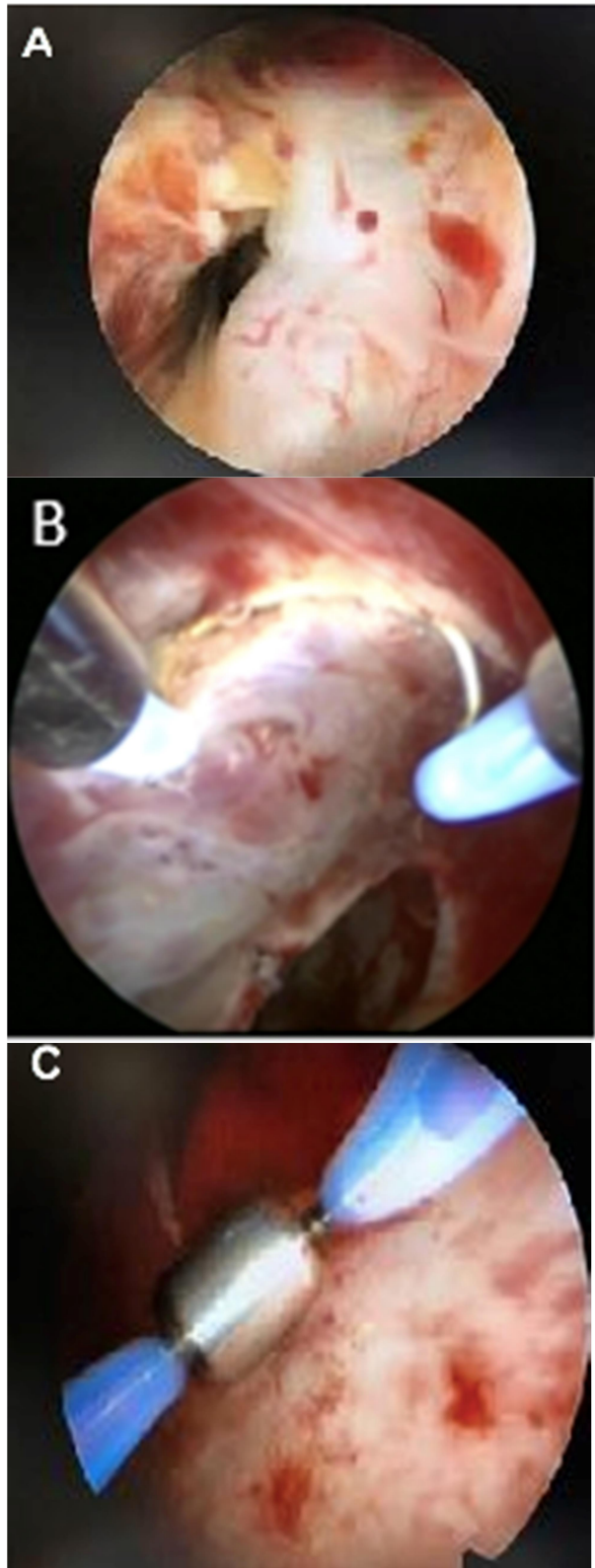
The aim of this case report is to highlight the importance of early diagnosis and the usefulness of hysteroscopy as a useful alternative technique to resolve cervical ectopic pregnancy while respecting the integrity of the uterus.

### Case report

A 31-year-old woman, parity 3 (one cesarean section for oligohydroamnios, and one spontaneous abortion complemented by instrumental uterine curettage) with frequent sexual activity and amenorrhea for 6 weeks with pregnancy test positive. The transvaginal pelvic ultrasound showed a gestational sac with cervical implantation without evidence of bleeding whose measurements corresponded to 6.1 weeks.

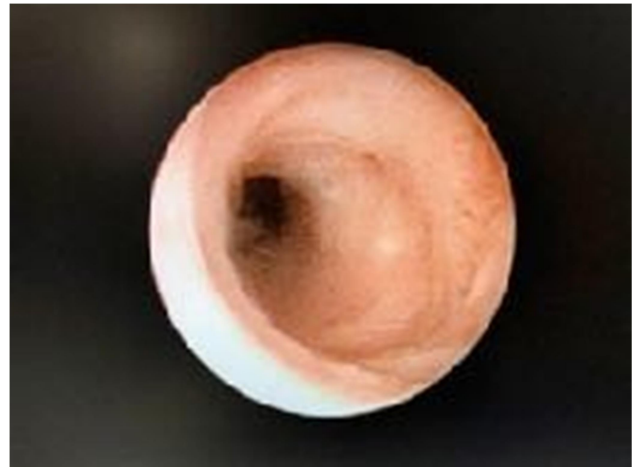
The patient went to the Emergency Department of the Women's Hospital belonging to the Secretary of Health, Mexico City. The medical examination revealed no signs of bleeding and no pelvic pain, blood pressure was 100/60 mmHg, 86 pulses per minute, and normal temperature. Vaginal examination was not performed. Laboratory studies reported: hemoglobin 12.5 g/dL, hematocrit 43%,

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**Figure 1.** Hysteroscopy images. Panel A: Diagnostic image showing the gestational sac with a cervical location. Panel B: Resection of the gestational sac. Panel C: Hemostasis of the surgical bed with the rollerball device.

leukocytes 8,800/ $\mu$ L, platelet count 266,000/ $\mu$ L, glucose 82.8 mg/dL and creatinine 0.6 mg/dL. The



**Figure 2.** Hysteroscopy image 40 days after the initial procedure. The endocervical canal, internal cervical orifice and uterine cavity were found without alterations

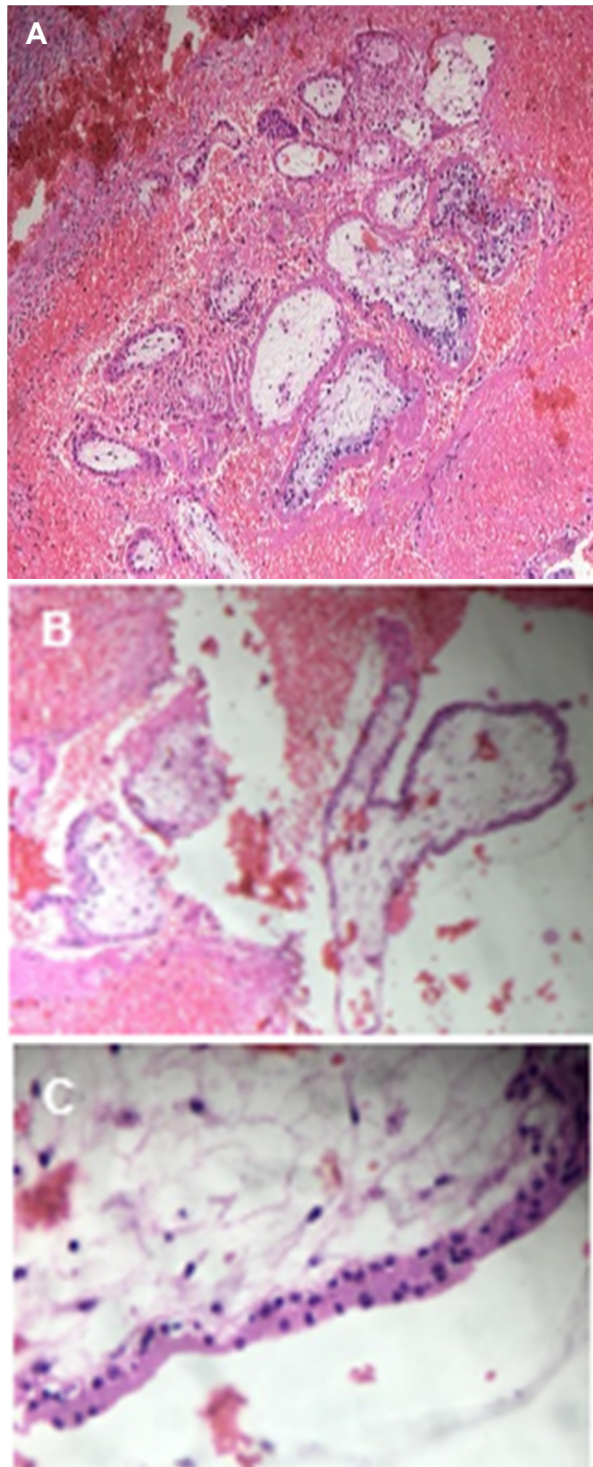
blood concentration of the beta fraction Human Chorionic Gonadotropin ( $\beta$ HCG) hormone was 84,535 mIU/ml.

A new transvaginal pelvic ultrasound was performed which reported an empty uterine cavity and a gestational sac on the anterior surface of the endocervical canal very close to the internal cervical orifice with adequate choriodecidual reaction. The gestational sac measured 25 mm, the size corresponding to a cervical pregnancy of 6.6 weeks. A detachment measuring 10 x 8 x 8 mm was observed at the superior and anterior margin of the gestational sac. Inside the sac, a single, live embryonic plate was observed, from which a regular, visible and measurable heart rate of 142 beats per minute was recorded. The cervix was normal in appearance, the endocervical canal was open by 2 mm and the internal cervical orifice was closed.

The patient was admitted to the hospital because her pregnancy was considered high risk due to the high possibility of bleeding. The multidisciplinary team decided to terminate the pregnancy with hysteroscopy, so the patient and family were informed about the technique, advantages and risks of the procedure. Authorization was obtained with written informed consent.

Hysteroscopy was carried out in the same hospital facilities using the Bettocchi method under the effects of general anesthesia. The embryonic plate was identified and resected with a bipolar resector alternating the cutting and coagulation modes using an AUTOCON® 400 generator. As a liquid distension medium, a 0.9% saline solution was used. **Figure 1**

At the end of the hysteroscopy procedure, a urinary catheter was placed and bilateral ligation of the hypogastric arteries was carried out as a prophylactic measure through the abdominal route. There were no postoperative complications.



**Figure 3.** Images of the histopathological study. Panel A. Chorionic villi surrounded by erythrocytes (HE, 10X). Panel B. Close-up of the villi composed of loose stroma covered by cytotrophoblast and syncytiotrophoblast (HE, 40X). Panel C. Double layer of the villi: cytotrophoblast corresponds to the cells with lighter cytoplasm and the syncytiotrophoblast to the outer cells with eosinophilic cytoplasm.

The serum  $\beta$ HCG concentration 48 hours after surgery was 9,954 mIU/ml. The patient's hemodynamic parameters remained stable and it was decided to discharge her from the hospital with

outpatient management. One week later the serum concentration of  $\beta$ HCG was 1,246 mIU/ml and two weeks later 3.4 mIU/ml. A review with hysteroscopy was carried out 40 days after surgery and the endocervical canal, internal cervical os and uterine cavity were identified without alterations. **Figure 2.**

In the histopathological study, chorionic villi were identified. The embryo measured 9 mm in cephalocaudal length corresponding to 5 weeks of gestation. **Figure 3.**

### Discussion

To make a diagnosis of cervical ectopic pregnancy, the obstetric history, clinical data, and laboratory and cabinet studies must be considered. Timely diagnosis and early management are essential to reduce associated complications. Cervical pregnancy treatment may include a variety of options, from conservative therapy (Methotrexate, Potassium Chloride) to surgical procedures.<sup>1,8</sup> Hysterectomy is the first invasive option for the management of cervical ectopic pregnancy, but other alternative procedures have emerged that can be resolving and allow the preservation of the uterus.<sup>1,3</sup> To date, no protocol has been established to select therapeutic procedures due to the low frequency with which this type of pregnancy occurs.<sup>8</sup>

In the clinical case, important risk factors were identified such as a previous cesarean section and an abortion with instrumented uterine curettage.<sup>2,9</sup> Fortunately, the patient did not have transvaginal bleeding, the most common sign associated with a cervical ectopic pregnancy.<sup>1,4-6,9</sup> Ultrasound was decisive in identifying cervical ectopic pregnancy. Hysteroscopy was sufficient for complete resection of the gestational sac, so it should be considered a useful alternative procedure especially when it is important to preserve the uterus for reproductive purposes.<sup>3,7</sup> Bilateral ligation of the hypogastric arteries was elective in the reported case. This is a procedure that is not necessary for all patients.

### Conclusion

The patient's fortunate outcome serves to highlight the importance of early diagnosis and the usefulness of hysteroscopy as a useful alternative to resolve cervical ectopic pregnancy while respecting the integrity of the uterus.

### Conflicts of interests

The authors of this article declare no conflicts of interest.

## References

1. Daniel O, Usha Rani G. Cervical pregnancy: modes of management. *SAFOG*. 2019;11(6):392-396. DOI:10.5005/jp-journals-10006-1736.
2. Matorras R, Zallo A, Hernandez-Pailos R, Ferrando M, Quintana F, Remohi J, et al. Cervical pregnancy in assisted reproduction: an analysis of risk factors in 91,067 ongoing pregnancies. *Reprod Biomed Online*. 2020;40(3):355-361. DOI: 10.1016/j.rbmo.2019.12.011.
3. Vela G, Tulandi T. Cervical pregnancy: the importance of early diagnosis and treatment. *J Minim Invasive Gynecol*. 2007;14(4):481-484. DOI: 10.1016/j.jmig.2006.11.012.
4. Ruipérez Pacheco E, Gutiérrez Alaguero A, Brenes Sánchez JM, Asenjo de la Fuente E, Coronado Martín P, Herraiz Martínez MA. Embarazo ectópico cervical. Reporte de un caso. *Rev Peru Ginecol Obstet*. 2019;65(4):349-352. DOI:10.31403/rpgo.v65i2213.
5. Samal SK, Rathod S. Cervical ectopic pregnancy. *J Nat Sci Biol Med*. 2015;6:257-260. DOI:10.4103/0976-9668.149221.
6. 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(12):3224-3230. DOI:10.1093/humrep/17.12.3224. PMID: 12456628.
7. Shirinzadeh L, Jafarian AH, Davachi B, Mousavi Seresht L, Azimi H, Akbarzadeh S, et al. Successful management of cervical ectopic pregnancy: a case report. *J Midwifery Reprod Health*. 2020;8(2):2254-2258. DOI: 10.22038/jmrh.2019.35481.1385
8. Masuda H, Endo T, Yoshimasa Y, Uchida H, Nakabayashi A, Maruyama T, et al. A case of hysteroscopic resection of cervical pregnancy after successful treatment with systematic methotrexate. *J Obs Gynaecol*. 2016;36(7):865-866. DOI:10.1080/01443615.2016.1174837.
9. Ferrara L, Belogolovkin V, Gandhi M, Litton C, Jacobs A, Saltzman D, et al. Successful management of a consecutive cervical pregnancy by sonographically guided transvaginal local injection: case report and review of the literature. *J Ultrasound Med*. 2007;26(7):959-965. DOI:10.7863/jum.2007.26.7.959.

Juan Gustavo Vázquez Rodríguez.  
High Specialty Medical Unit  
Gynecology and Obstetrics Hospital No. 3  
National Medical Center "La Raza"  
Mexican Institute of Social Security  
Mexico City, Mexico