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Hysteroscopic management of an interstitial ectopic pregnancy

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## Images in Gynecology

### Hysteroscopic management of an interstitial ectopic pregnancy.

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## Précis

We report a case of an interstitial ectopic pregnancy successfully managed by hysteroscopy. We highlight the benefits of using hysteroscopy, a non-invasive procedure, to preserve fertility.

Keywords: cornual pregnancy, ectopic pregnancy, methotrexate, hysteroscopy

### Case summary

A 40-year-old woman, gravida 3, para 1, at 7 weeks' gestation by last menstrual period, presented with sparse vaginal bleeding. An ultrasound revealed an eccentric gestational sac of 35 mm, without embryo, located in the left uterine cornua, with a 3-mm interface between the sac and the uterine serosal (*Figure 1*). Her initial serum  $\beta$ hCG level was 13,003 IU/ml.

The patient and her husband were counselled at that time regarding options for management. They wanted to preserve fertility; therefore, we proceeded with multiple doses of systemic methotrexate. Four doses of 50 mg methotrexate were administered intramuscularly with folinic acid rescue on alternate days.

Follow up during the first 2 weeks involved  $\beta$ hCG serum level measurements and ultrasound every 48 hours. In the following 6 weeks,  $\beta$ hCG levels decreased to 70 IU/ml and then remained static. Despite the significant decrease in the  $\beta$ hCG levels, serial ultrasounds showed persistent trophoblastic tissue with significant reduction of peripheral vascularization, which was consistent with the slowed  $\beta$ hCG decrease.

Due to the ultrasound findings and the static  $\beta$ hCG levels, hysteroscopy was

scheduled. A hysteroscopic approach was selected due to the clinical stability of the patient, the desire to preserve fertility, and the approach being minimally invasive. Previous cases have been described that report successful management [4, 5, 6].

Diagnostic hysteroscopy revealed an empty cavity and confirmed the presence of a gestational sac in the left uterine cornua (*Figure 2*). During the procedure, forceps were used to dissect and grasp the trophoblastic tissue (*Figure 3*). The sac was successfully released into the uterine cavity and completely removed. A pathologist confirmed that a tissue biopsy contained the products of conception. There were no bleeding or other complications during the procedure.

Three months later, no signs of pregnancy were seen via ultrasound, and  $\beta$ hCG levels were negative. A second hysteroscopy was performed and confirmed an empty and normal cavity (*Figure 4*).

Cornual resection and hysterectomy have been the traditional treatment of interstitial ectopic pregnancies. However, it is now feasible to make diagnoses at an early stage, allowing for more conservative treatments [1]. The first successful medical treatment of an interstitial ectopic pregnancy was reported by Tanaka et al. in 1982 using intramuscular methotrexate [2]. Since then, methotrexate has been considered an appropriate treatment for unruptured cornual pregnancies, administered either systemically or directly into the gestational sac [2, 3].

Regarding surgical procedures, endoscopy has replaced laparotomy, especially minimally invasive techniques such as the one described here. Hysteroscopy is a safe and effective technique that provides rapid resolution and minimizes the impact on future fertility of the patient [4].

Adding methotrexate treatment may increase the success rate of endoscopic procedures as also described by Sanz et al. and Groutz et al. [5, 6] Laparoscopic assistance may be considered to provide a visual control [7].

**Bibliography**

1. Katz DL, Barrett JP, Sanfilippo JS, Badway DM (2003) Combined hysteroscopy and laparoscopy in the treatment of interstitial pregnancy. *Am J Obstet Gynecol* 188:1113–1114.
2. Tanaka T, Hayashi H, Kutsuzawa T, Fujimoto S, Ichinoe K. Treatment of interstitial ectopic pregnancy with methotrexate: report of a successful case. *Fertil Steril*. 1982;37:851–852.
3. Concetta Leggieri, MD, Francesca Guasina, MD, Paolo Casadio, MD\*, Alessandro Arena, MD, Gianluigi Pilu, MD, and Renato Seracchioli, MD. Hysteroscopic methotrexate injection under ultrasonographic guidance for interstitial pregnancy. *J Minim Invasive Gynecol*. 2016;23:1195-1199
4. Minelli L, Landi Sm Trivella G, Fiaccavento A, Barbieri F. Cornual pregnancy successfully treated by suction curettage and operative hysteroscopy. *BJOG*. 2003, 110: 1132–1134
5. Sanz LE, Verosko J. Hysteroscopic management of cornual ectopic pregnancy. *Obstet Gynecol* 2002; 99:941–944.
6. Groutz A et al (1998) Successful treatment of advanced interstitial pregnancy with methotrexate and hysteroscopy: a case report. *J Reprod Med* 43:719–722
7. Nezhat CH, Dun EC. Laparoscopically-assisted, hysteroscopic removal of an interstitial pregnancy with a fertility-preserving technique. *J Minim Invasive*

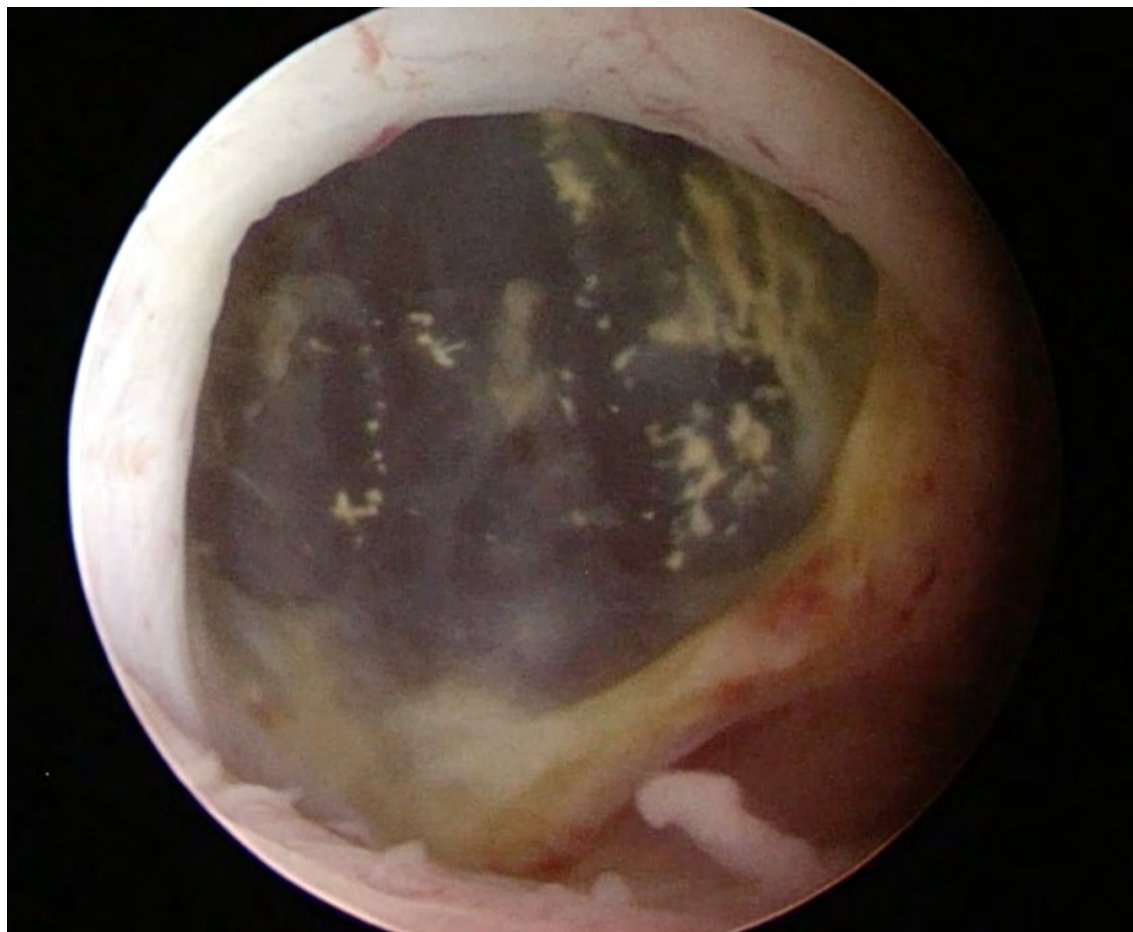
*Gynecol.* 2014;21:1091–1094.

8. Goldenberg M, Bider D, Oelsner G, Admon D, Maschiach S. Treatment of interstitial pregnancy with methotrexate via hysteroscopy. *Fertil Steril* 1992;58:1234–1236.
9. Kahramanoglu I, Mammadov Z, Turan H, Urer A, Tuten A. Management options for interstitial ectopic pregnancies: A case series. *Pak J Med Sci.* 2017;33(2):476-482
10. Pal B, Akinfenwa O, Harrington K. Hysteroscopic management of cornual ectopic pregnancy. *BJOG.* 2003, 110: 879-880

**Figure legend:**



**Figure 1:** Ultrasound image showing an eccentric gestational sac in the left uterine cornua. The myometrium is thinned with 3 mm between the sac and the uterine serosal.



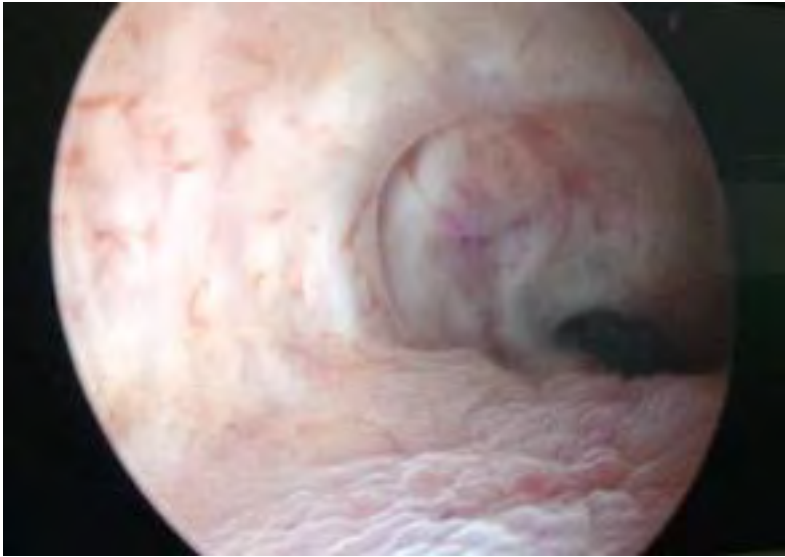
**Figure 2:** Hysteroscopic view of the interstitial ectopic pregnancy in the left uterine cornua.



**Figure 3:** Forceps dissecting the trophoblastic tissue.

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**Figure 4:** Hysteroscopic view of the left uterine cornua three months after hysteroscopy.

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