

# IUD hysteroscopic removal during early pregnancy: a case report

All authors have no conflicts of interest to declare

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## Introduction

Pregnancy among intrauterine device (IUD) users is an uncommon event, with first-year failure rates of 0.8% for the copper IUD and 0.2% for the levonorgestrel-releasing IUD(1). If a pregnancy occurs with a IUD in situ, there may be complications in both maintenance or removal of the device. Pregnancies with an IUD have a higher rate of spontaneous abortion, preterm labour, late miscarriage, septic abortion, clinical chorioamnionitis, premature rupture of membranes or placental abruption, and may be related with worse neonatal outcomes (see Fig.1)(2). In women to whom the IUD is removed in early pregnancy, a lower risk of adverse events is observed, such as spontaneous abortion or preterm delivery(3).

Usually, when there is a pregnancy with an IUD in place, implantation occurs away from the device, leaving the IUD extra-amniotic. In such circumstances the threads of the IUD are usually found in the vagina and the World Health Organization recommends removal of the IUD at the earliest gestational age possible. However, when the thread is not seen (occult IUD), it is important to identify the location of the IUD in order to remove it without damaging the gestational sac. This can be done either through ultrasound-guided IUD removal with grasping forceps or through hysteroscopic technique, with no single technique having been deemed superior(1).

Variable	No IUD (n = 12101)	Pregnancy with an IUD (n = 196)	Crude OR (95% CI)
<b>Obstetrical outcomes</b>			
Preterm birth	2503 (20.7)	110 (56.1)	4.9 (3.7-6.5)
Spontaneous preterm labor	946 (7.8)	34 (17.3)	2.5 (1.7-3.6)
Preterm PROM	714 (5.9)	68 (34.7)	8.5 (6.3-11.5)
Late spontaneous abortion (>12weeks)	146 (1.2)	31 (15.8)	15.4 (10.1-23.3)
Fetal death	188 (1.6)	9 (4.6)	3.0 (1.5-6.0)
Clinical chorioamnionitis	209 (1.7)	16 (8.2)	5.1 (3.0-8.6)
Placental abruption	249 (2.1)	16 (8.2)	4.2 (2.5-7.2)

Fig. 1: Comparison of the risk of adverse outcomes in pregnancies with IUD in situ vs pregnancies with no IUD

## Aim

Our main purpose is to exemplify, through a clinical case report, the usefulness of the hysteroscopy in the removal of occult IUDs during early pregnancy.

## Method

A 30-year-old woman, G3 P2, user of a copper IUD for the last 3 years, visited the emergency room referring a positive urine pregnancy test. Gynaecological examination revealed IUD threads visible in the vaginal introitus and pelvic ultrasound (US) showed a 8x4mm intrauterine gestational sac with visible yolk sac but no embryo. The IUD was seen inside the cervical canal, with the vertical stem 12mm away from the external orifice of the uterus. Since the patient desired to continue with the pregnancy, removal of the IUD was attempted although without success, causing the rupture of the IUD threads. Afterwards, ultrasound-guided IUD removal with Kelly and Kocher forceps, and under antibiotic coverage, was also attempted without success and, therefore, the patient was programmed to receive a hysteroscopic IUD removal.

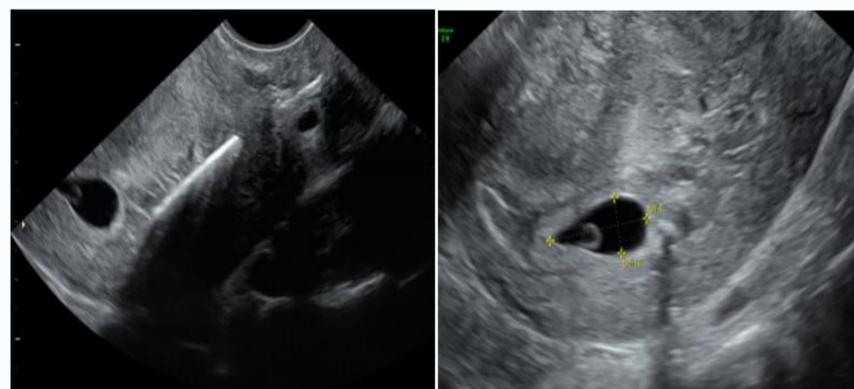


Fig.2: IUD and pregnancy seen via ultrasound during the attempt to remove the device with Kelly and Kocher forceps

## Results

The hysteroscopy was performed 10 days after the patient's first visit to the emergency room. It was an in-office procedure carried out without anaesthesia and without cervical dilation. We used a Bettocchi hysteroscope with infusion of saline solution in order to achieve the minimal pressure necessary to dilate the endocervix, along with prophylactic antibiotic therapy. The IUD was located in the uterine isthmus, broken in 3 parts, and it was removed without complications. Shortly after the removal, however, the patient decided to terminate the pregnancy through an induced abortion.



## Conclusions

Hysteroscopic IUD removal technique is a useful tool when diagnosing a first trimester pregnancy with an occult IUD, especially when other techniques have failed previously. It allows us to remove the device, decreasing the risk of adverse outcomes associated with IUD and pregnancy, and to do so while locating the gestational sac, therefore decreasing the possibility of injuring the evolving pregnancy.

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