Extrauterine Displaced Intrauterine Devices: When Should They Be Surgically Removed?

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Use of the intrauterine device (IUD) is widely accepted as a contraceptive method throughout the world because of its safety, economy, efficiency, and reversibility. However, IUD use is associated with rare side effects and complications, such as irregular menstrual bleeding, dysmenorrhea, pelvic infections, expulsion of the device, and uterine perforation. Uterine perforation is a rare but serious complication that generally occurs during insertion of the device, but may also occur as a result of migration of the IUD through the uterine wall. Expulsion and dislocation of the IUD may lead to pregnancy; however, pregnancy can still occur even when the IUD remains *in utero*, and its efficacy has been demonstrated to be about 97% [1]. Displaced IUDs are associated with potential risks to the adjacent organs, such as the bowel or bladder, and might also lead to pelvic infections and abscesses. The management of extrauterine displaced IUDs still remains controversial, and no consensus opinion exists.

In this case report, a patient presented with an undesired pregnancy and a displaced IUD, which was located within a pelvic abscess in the Douglas pouch. The management of extrauterine displaced IUDs is also discussed.

A 28-year-old woman had an undesired pregnancy with a displaced IUD, which was found within a pelvic abscess in the Douglas pouch. She was referred to our clinic, complaining of pelvic pain, fever, fatigue, nausea, vomiting and missed menstrual period. She had a history of IUD insertion 4 years ago and no history of previous pelvic inflammatory disease or sexually transmitted disease. Her menstrual periods were regular. Her inflammation markers were as follows: C-reactive protein was 50 mg/L, and leukocyte count was 15,000/μL.

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Upon pelvic examination, minimal odorless bloody discharge and mild cervical motion tenderness were present, but the threads of the IUD could not be seen in the external os. Ultrasonography revealed a single pregnancy of 7 weeks' gestation and a suspected IUD within a pelvic mass, located in the Douglas pouch (Figure 1). Based on the ultrasonography findings and clinical symptoms, an extrauterine displaced IUD within a pelvic abscess was suspected and laparoscopy was performed after 1 week of empiric antibiotic treatment. Laparoscopy revealed adhesions and an approximately 3 × 4 cm diameter abscess, located just behind the uterine isthmus in the Douglas pouch. The threads of the displaced IUD were seen on the surface of the abscess (Figure 2). The copper-bearing IUD within the abscess was removed and the abscess was drained. The pregnancy was also terminated owing to its undesirability. The cultures obtained from the drained abscess fluid were negative, possibly because of the antibiotic treatment prior to laparoscopy. Intravenous antibiotics were continued for 2 days after laparoscopy, and the patient was discharged on the second postoperative day with oral antibiotics.

The frequency of failure of copper IUDs is about 0.8% during the first year of use [1]. Pelvic abscesses

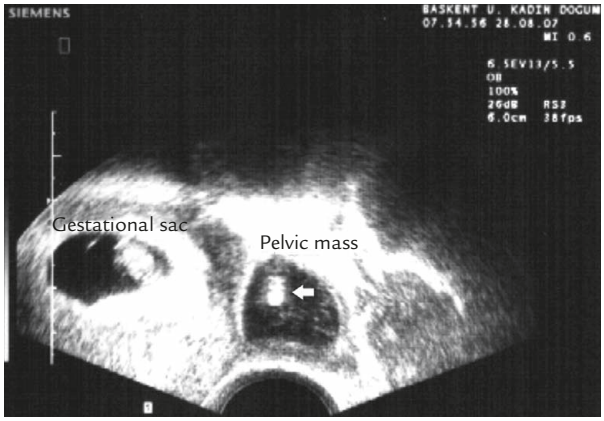

Figure 1. Ultrasonography revealed gestational sac and pelvic mass. Arrow indicates part of the intrauterine device.

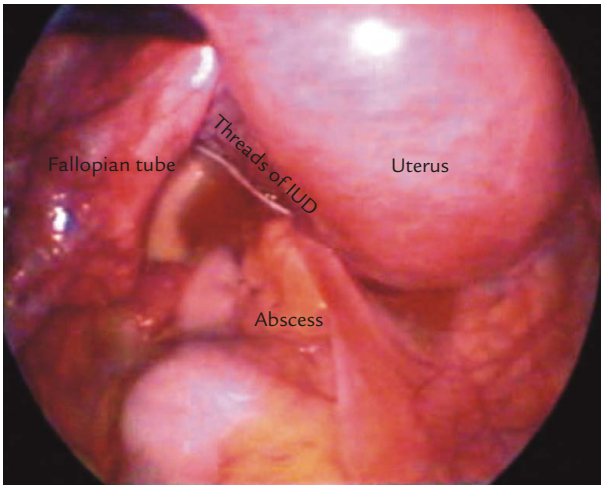

Figure 2. Laparoscopy showed threads of the intrauterine device (IUD) within the abscess in the Douglas pouch.

can also develop when IUDs are displaced or located in the uterus, and even soon after removal. Tanir et al [2] found an association between pelvic abscess formation and IUD use and suggested that the presence of an IUD should be considered in cases of pelvic abscesses.

In addition to the potential complications and side effects of IUDs, the management of extrauterine displaced IUDs is also a matter for concern. Should they be removed?

The appropriate management of extrauterine displaced IUDs with ongoing pregnancy is the most hotly disputed topic, but we are discussing the management of displaced IUDs without pregnancy, with regard to our current case. It is believed that displaced IUDs have the potential to perforate the bowel or to serve as a closed loop, causing intestinal obstruction. Displaced copper-bearing IUDs have also been reported to result in the formation of adhesions. Heinonen et al [3] observed that IUDs were found adhering to the omentum or sigmoid in 10 of 16 cases of uterine perforations by copper IUDs. The World Health Organization and the International Planned Parenthood Federation recommended the removal of displaced IUDs because of the potential damage associated with the closed variety of IUDs or with medicated, copper devices, and because of potential medicolegal problems.

However, Markovitch et al [4] were unable to establish the mechanism of intestinal obstruction with covered or closed IUDs. Indeed, in contrast to the findings of Heinonen et al [3], Markovitch et al [4] and Adoni and Ben Chetrit [5] found no bands of adhesions in three and 11 cases of displaced IUDs, respectively. They, therefore, suggested that although surgery should be used to remove displaced IUDs in symptomatic patients, asymptomatic patients may benefit from conservative management under certain circumstances.

Thus, the literature reports different approaches to the management of displaced IUDs, and no consensus exists. Further studies are needed to determine if extrauterine displaced IUDs should be removed when they are found, or only when the patients become symptomatic.

References

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