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## Combined Laparoscopic and Fluoroscopic Removal of Intrauterine Contraceptive Device Embedded in the Omentum

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### ABSTRACT

A 32-year-old female patient presented with abnormal menstrual bleeding after copper intrauterine contraceptive device (IUD) insertion. Direct abdominal radiograph showed the IUD in the lower abdomen. Fluoroscopy was required to locate the device embedded in the omentum during laparoscopy. If the IUD cannot be visualized during laparoscopy, fluoroscopic imaging can be useful.

**Keywords:** Contraception, laparoscopy, fluoroscopy



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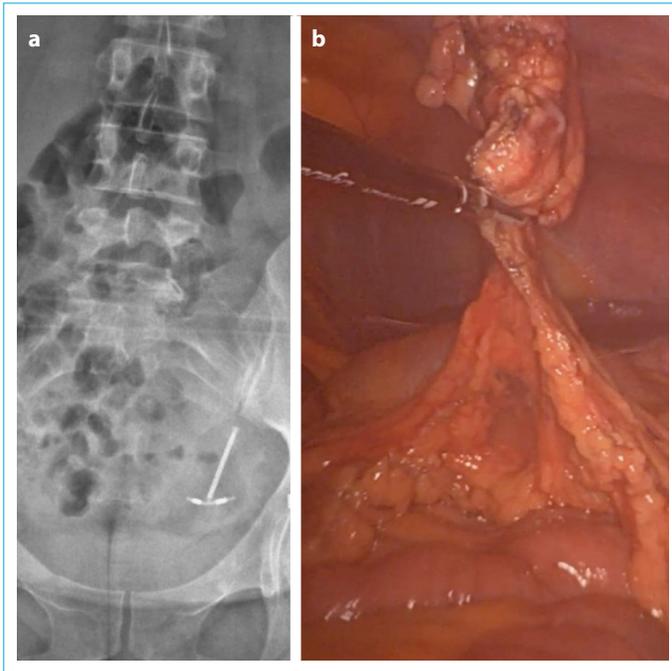
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### INTRODUCTION

Uterine perforation is a serious complication of intrauterine contraceptive devices (IUD).<sup>[1]</sup> Its incidence is around 1.3 per 1000 copper IUD placements, and it depends on the IUD type.<sup>[2]</sup> In most cases, perforation occurs at the time of IUD placement, however, partial perforation may be overlooked and progress to complete perforation with time. Patients may present with an unexpected pregnancy, and lost strings or even remain asymptomatic for years. Approximately 15% of IUD-related uterine perforations lead to further complications in the adjacent visceral organs, primarily the intestines, including obstruction, penetration, infarction, mesenteric injury, rectal strictures and rectouterine fistulae.<sup>[3,4]</sup> Here, the case was presented of missing copper IUD embedded in the omentum during laparoscopy with the aid of fluoroscopy.

### CASE REPORT

A 32-year-old female patient, who had a copper IUD placed one month ago presented with abnormal menstrual bleeding. After the IUD insertion, the patient did not exhibit any IUD-related signs or symptoms. During vaginal examination, the IUD strings were not observed, and the device was not visualized within the uterine cavity with ultrasound imaging. Direct abdominal graph revealed that the IUD was located outside the uterine cavity, at the left inferior abdominal quadrant, near the iliac artery (Fig. 1a). The patient underwent surgery for laparoscopic IUD removal, during which IUD was not observed around the uterus, in the Douglas pouch or the pelvic cavity. There were no traces of uterine perforation (Fig. 1b). The IUD was searched between the bowel loops but not found in any of the free spaces. A portable fluoroscopy device was brought to the operating room thereupon, which helped determine

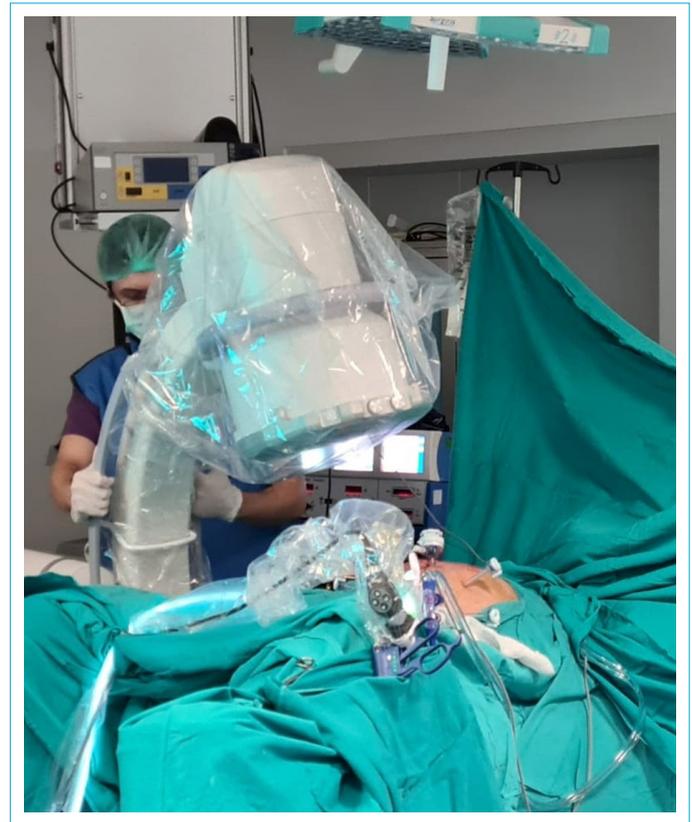


**Figure 1. (a)** Supine abdominal X-ray of the patient. The intrauterine device was outside the uterine cavity, at the left inferior abdominal quadrant, near the iliac artery. **(b)** Laparoscopic view of intrauterine device embedded in the omentum.

the precise localization of the IUD, which was embedded in the omentum (Fig. 2). It was removed with the surrounding inflamed tissue. Histopathological studies of the removed omental tissue showed active chronic non-specific inflammation, suppurative granulation tissue, histiocytic and fibroblastic reactions. The patient was discharged healthily on the 2<sup>nd</sup> postoperative day.

## DISCUSSION

Intrauterine devices are considered one of the most effective methods for contraception. IUD misplacement generally occurs during placement of the device, and in most cases, is recognized within the first year.<sup>[5]</sup> Uterine perforation, common in cases of “missing” IUD, may be a significant cause of morbidity and mortality, damaging surrounding organs, such as the bladder, omentum, rectum, sigmoid colon, and even the appendix. While cases can be entirely asymptomatic, there are numerous case reports describing the complications of mislocated IUD which include infection, intestinal obstruction and strangulation, bladder and bowel perforation, colonic fistula, acute appendicitis, and even sciatica.<sup>[1,2,4,6,7]</sup> Ultrasound imaging, which is a safe and noninvasive method, can be used for locating IUDs within the uterine cavity for evaluating correct placement. If an IUD is not found within the endometrial cavity, X-ray will be useful for locating the device.



**Figure 2.** Assistance of fluoroscopy during laparoscopy.

The complaint of the case was delayed menstrual bleeding, and the patient was asymptomatic. Contrary to most other cases, the patient did not show any signs of perforation within the uterus, and omentum had wrapped around the IUD. When it is embedded in the omentum, it can be a challenge to locate the IUD.

## CONCLUSION

It should be checked whether the IUD is in the intrauterine cavity after insertion, and the patient should be called for follow-up. If the IUD is not observed in the intrauterine cavity, it is necessary to obtain an abdominal x-ray to investigate extrauterine locations. If a lost IUD cannot be found with laparoscopic exploration, fluoroscopy can be of use.

## Disclosures

**Informed Consent:** Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

**Conflict of Interest:** None.

**Peer-review:** Externally peer-reviewed.

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– B.B.K.; Analysis and/or interpretation – C.H.; Literature search – B.B.K.; Writing – B.B.K.; Critical Review – C.H.

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