

Figure 1 Radiographic image showing presence of intrauterine device in abdominal cavity.



Figure 2 Intraoperative transabdominal ultrasound image showing location of intrauterine device within bowel loops.

Using a sterile transabdominal probe, the presence of a tubular hyperechoic structure in the abdominal cavity was confirmed and a precise location within the bowel loops was determined (Figure 2 and Videoclip S1).

Under ultrasound guidance, the surgeon was able to identify the device in the wall of the ileum (Videoclip S2) and wedge resection of the involved bowel was performed by mini-laparotomy (Figure 3). The postoperative course was uneventful. At follow-up 3 and 6 months after surgery, the patient was asymptomatic.

IUDs are commonly used as a contraceptive method¹. However, they may cause rare but potentially serious complications, such as migration through the uterine wall². It is estimated that the rate of perforation secondary to IUD insertion is between 0 and 1.3 per 1000 patients³. Gill *et al.* noted that perforation by an IUD has been found in many locations, including in the colonic lumen (10.4%), the small bowel serosa (4.4%), the colonic serosa (3.7%) and the mesentery (3%)⁴. The World Health Organization recommends removal of a migrated IUD as soon as possible, irrespective of its type and location⁵. In the past, the presence of adhesions and perforation of viscera often resulted in need for laparotomy to remove the IUD.

The present case is an example of an application of intraoperative ultrasound examination allowing the surgeon to identify precisely the location of a lost IUD, making surgery feasible and accurate in removing the device.

Intraoperative ultrasound assistance for surgical removal of lost intrauterine device

A 45-year-old woman, who had an intrauterine device (IUD) in place for 2 years, was referred to our emergency unit due to pelvic pain and bleeding. On vaginal examination, the strings of the IUD were not identified. Laboratory parameters were unremarkable. Abdominal radiography documented the presence of an IUD in the abdominal cavity (Figure 1). During laparoscopy, the surgeon was unable to locate the IUD and an intraoperative ultrasound examination was requested.

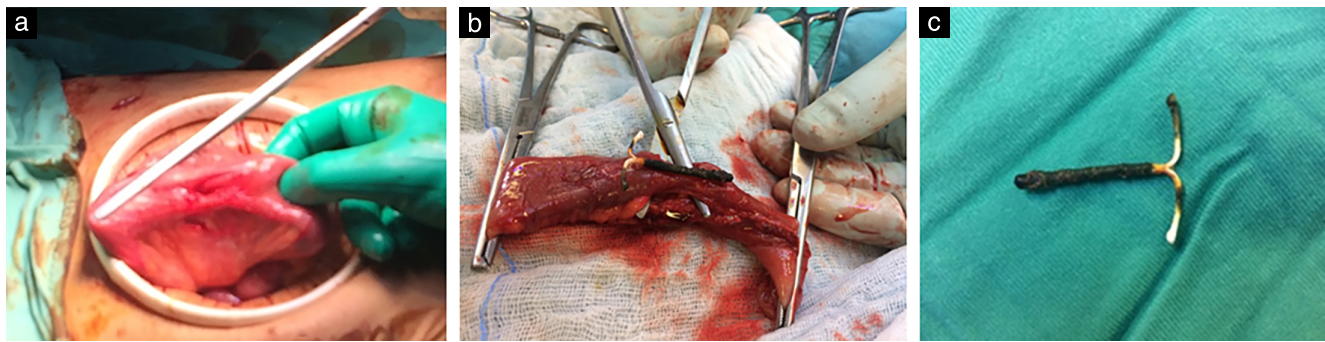


Figure 3 Images showing location of intrauterine device within bowel wall during surgery (a) and following removal by mini-laparotomy (b,c).

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SUPPORTING INFORMATION ON THE INTERNET

The following supporting information may be found in the online version of this article:

 **Videoclip S1** Intraoperative transabdominal ultrasound video showing location of intrauterine device within bowel loops.

Videoclip S2 Location by surgeon of intrauterine device within bowel wall under intraoperative transabdominal ultrasound guidance.