Laparoscopic Removal of an Intrauterine Contraceptive Device Migrated into the Bladder: A Case Report

Davide Campobasso,[1] Matteo Ciuffreda,[1] Umberto Maestroni,[1] Francesco Dinale,[1] Antonio Frattini,[2] Stefania Ferretti[1]

[1]Department of Surgery, University Hospital of Parma, Parma, Italy.
[2]Hospital of Guastalla, Guastalla, Italy.

Corresponding Author:
Davide Campobasso, MD
Urology O. U. (Chief: Pietro Cortellini), Surgical Department, Hospital and University of Parma, Via Gramsci, 14; 43126 Parma, Italy.

Tel: +39 338 8220525
Fax: +39 0521 704782
E-mail: d.campobasso@virgilio.it

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INTRODUCTION

Intrauterine device (IUD) is a worldwide commonly used contraceptive method. With an incidence of 0.003%-0.87%, migration into the abdomen after uterus or cervix perforation, usually occurring during insertion, is a major though infrequent complication. Diagnosis is frequently made within one year after insertion.[1,2] Surgical removal is usually difficult due to adhesions or lesions made to the surrounding organs. Here we report a case of a 39 years old lady who underwent laparoscopic removal of an IUD perforating the bladder.

CASE REPORT

The patient came to our attention for dysuria and recurrent urinary tract infections caused by Escherichia Coli. Her past medical history included 2 pregnancies, a medical abortion in 2008 and an IUD insertion in 2009. Pelvic examination, urine culture and routine blood tests were normal, whereas ultrasound scans reported a suspicious bladder lesion, revealed as a granulomatous area in the dome of the bladder, without productive lesions, on cystoscopic evaluation. Computed tomography (CT) urography demonstrated a dislocated IUD outside the uterus, perforating the dome of the bladder with one of its arms, without any stranding of contrast outside the urinary tract (**Figure**).

A transperitoneal laparoscopic exploration was carried out in the standard supine position. In addition to the perforation, fibrosis and extensive adhesions between the IUD and a small bowel loop were also noted. The retrieval of the IUD was carried out with blunt dissection (**Figure**), avoiding diathermy because of the presence of copper in the device. Bowel resection was not required. Bladder defect was sutured with interrupted stitches. The patient was discharged on the fourth postoperative day and the urethral catheter was removed on the thirteenth postoperative day upon obtaining negative cystography.

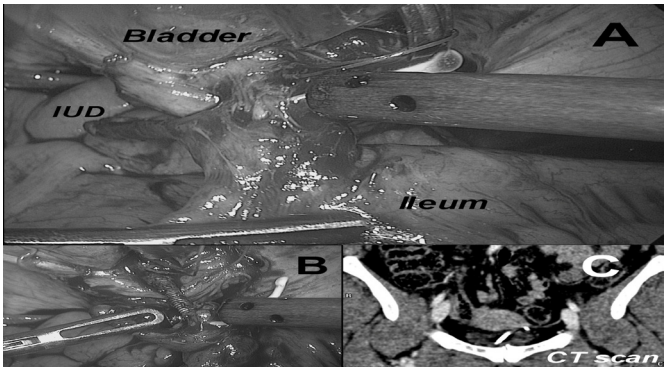

Figure. A and B: Intraoperative images showing the adhesion between the intrauterine device (IUD), the bladder wall and the ileum; **C:** Preoperative computed tomography scan with the partial migration of the IUD into the bladder.

DISCUSSION

Although rare, given the potential risk of relevant complications, a high index of suspicion is mandatory towards IUD migration, and its occurrence should be suggested by painful or difficult insertion. Afterwards a gynecological examination ought to be performed after 6 weeks.

The most frequent sites of migration are, omentum (26.7%), Douglas pouch (21.5%), large bowel (10.4%), myometrium (7.4%), broad ligament (6.7%), free within in the abdomen (5.2%), adhesion to ileal loop serosa (4.4%) or to large bowel serosa (3.7%) and mesentery (3%).[3] Rare sites are represented by appendix, abdominal wall, ovary and bladder.[3]

Symptoms are not specific, depending on the organs involved; patients usually complain of dysuria, suprapubic pain or metrorrhagia. Diagnosis is often made during investigations for a pregnancy (30%) or in asymptomatic patients undergoing scans for other reasons.[3] The World Health Organization (WHO) advices removal of all migrated devices, even in asymptomatic patients, because of medicolegal implications.[4] Moreover, patients may feel anxious about the poor predictability of the outcome of such complications, as the device could migrate and injury surrounding organs, create adhesions with possible bowel obstruction or infertility, get infected or form an abscess. However, management is still debated. Some authors suggest that surgical removal is not necessary in asymptomatic patients.[1] In fact, adhesions occurring at the time of uterine perforation could fasten IUD, thus preventing secondary migration or infection, especially with third generation IUDs. There is no clear evidence supporting either theory.

An adhesion between IUD, the small bowel and the symptomatic bladder perforation was found in this patient. The operation should be carried out laparoscopically, as the minimally invasive technique offers clear advantages over open surgery with regards to postoperative morbidity. The success rate in the literature is over 60%.[3] Laparotomy approach is also described,[5] but in our opinion is strictly indicated in case of sepsis, and is an option in case of bowel perforation. A combined laparosco-endoscopic procedure can sometimes be carried out, when part of the device is in the lumen within a hollow organ (i.e. bowel or bladder).[2,3,6-8]

During the operation, special care should be paid when using monopolar diathermy, for the risk of indirect thermal injury in case the active electrode comes in direct contact with the metallic part of the device. Moreover, strong traction should be avoided to prevent damage to adhering organs. IUD removal should therefore be carried out under direct vision of the entire device.

CONCLUSION

We think that the all migrated IUD should be removed laparoscopically. A contrast enhanced CT scan could clarify its exact location and its relation with the surrounding organs, thus helping in the treatment plan.

CONFLICT OF INTEREST

None declared.

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