

Case Report

Bowel Perforation After Placement of Tubal Occlusion Contraceptive

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BACKGROUND: The tubal occlusion contraceptive provides a hysteroscopic technique for female sterilization. Efficacy of the tubal occlusion contraceptive relies on proper placement within the proximal aspect of the fallopian tubes. As long-term data become available, rates of complications are better defined.

CASE: This is a case of a patient who underwent placement of a tubal occlusion contraceptive. As a result of persistent pain and nausea, imaging was performed and malposition of the tubal occlusion contraceptive was identified. During laparoscopy, bowel perforation at the terminal ileum was diagnosed. Laparoscopic ileocectomy was performed.

CONCLUSION: There should be a low threshold for evaluation of complications after tubal occlusion contraceptive placement. Although rare, bowel perforation after placement of the tubal occlusion contraceptive can occur. Laparoscopic management should be considered.

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Female sterilization is the second most common form of contraception in the United States.¹ Hysteroscopic sterilization with the Essure insert (tubal occlusion contraceptive) offers a no-incision option for patients. Efficacy of the tubal occlusion contraceptive relies on proper placement within the proximal aspect of the fallopian tubes. Since approval of its use by the U.S. Food and Drug Administration in 2002 until 2012, there

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For a Video Abstract of this article, visit <http://links.lww.com/AOG/A627>.

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Teaching Points

1. Persistent postprocedural pain after tubal occlusion contraceptive placement should prompt further investigation.
2. Multiple imaging techniques can be used in the diagnosis of a tubal occlusion contraceptive complication.
3. Laparoscopy has a role in the management of malposition of the tubal occlusion contraceptive.

have been approximately 457 reported adverse events according review of the Manufacturer and User Facility Device Experience database.² The Manufacturer and User Facility Device Experience database collects medical device reports submitted to the U.S. Food and Drug Administration by mandatory reporters such as manufacturers, importers, and device user facilities and voluntary reporters such as health care professionals, patients, and consumers. Of these adverse events, pain is the most common (47.5%) followed by delivery failure malfunction (26.4%), uterine perforation (19.7%), pregnancy (13.3%), abnormal bleeding (9.6%), microinsert malposition (7.2%), allergic reaction (4.4%), and other (5.3%). Often, individual patients had more than one adverse event reported.

Another systematic Manufacturer and User Facility Device Experience database review³ showed that cases of reported malpositioning included perforation, expulsion, migration, and not otherwise specified. These were managed by laparoscopic retrieval, hysteroscopic retrieval, hysteroscopic trimming, cornual resection, replacement of microinsert, and eight devices were reported to have been left in place. Expulsion more commonly occurred into the uterine cavity than the peritoneal cavity. Additionally, device migration more commonly occurs into the uterine cavity than the abdominal cavity with a reported incidence of abdominal migration of 0.1%.⁴

There have been two reported cases of bowel obstruction or injury in the literature. Both occurred secondary to uterine perforation or migration. In one patient, the device had created adhesions that caused a bowel obstruction. It was removed laparoscopically with lysis of adhesions, left salpingectomy, and appendectomy.⁵ The second case was performed with a laparotomy, identifying a bowel perforation that required an ileocecal resection.⁶ We present a rare case of bowel perforation after placement of a tubal occlusion contraceptive insert.





Video Available Online

Video abstract. Dr. Kristin Riley summarizes her case report of a bowel perforation after placement of tubal occlusion contraceptive.

CASE

A 37-year-old woman, gravida 2 para 2, underwent placement of a tubal occlusion contraceptive at an outside hospital. Her obstetric history was significant for two term vaginal deliveries. Her medical and surgical history was noncontributory. Before placement of the tubal occlusion contraceptive, she had used Depo Provera for contraception. Within 2 days of placement, she had right-sided pelvic pain, nausea, and constipation. Her symptoms worsened, and she presented to her physician for evaluation approximately 2 weeks after her procedure and underwent imaging. A flat plate radiograph (Fig. 1) showed malposition of the tubal occlusion contraceptive within the myometrium and in the pelvis near the midline.

She presented to our office on referral from her gynecologist. On physical examination, she had diffuse abdominal tenderness to palpation, greater on the right than left lower quadrant. The decision was made to move forward with a laparoscopic removal of the tubal occlusion contraceptive and bilateral salpingectomy the next day.

At the time of laparoscopy, perforation of the tubal occlusion contraceptive through the fundus of the uterus

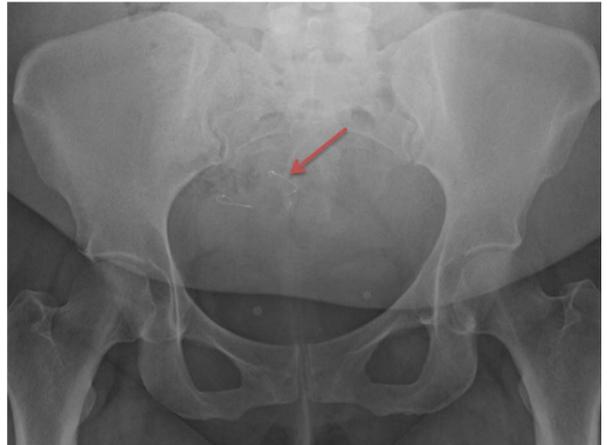


Fig. 1. Flat plate radiographic image shows midline position of perforated tubal occlusion contraceptive coil.

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was noted (Fig. 2). The perforation went into the small bowel and completely through to the mesenteric aspect. The fallopian tubes were removed.

Because of a through-and-through bowel perforation (Fig. 3), colorectal surgery was consulted intraoperatively. Perforation of the terminal ileum on both the medial and the inferior lateral walls extending into the root of the mesentery within 4 cm of the ileocecal valve was identified (Fig. 4). As a result of the location of the bowel perforation, laparoscopic ileocecectomy with construction of a stapled, functional end-to-end ileocolic anastomosis was performed. The patient did well and was discharged to home on postoperative day 3. She was seen for follow-up 3 weeks after surgery and reported normal bowel function.

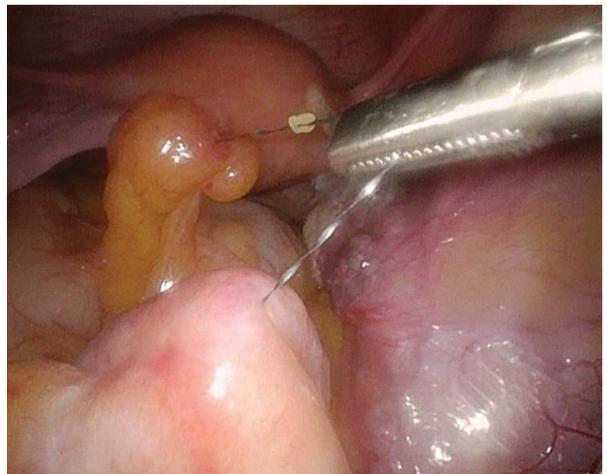


Fig. 2. Surgical image with tubal occlusion contraceptive coil perforation through the uterine fundus.

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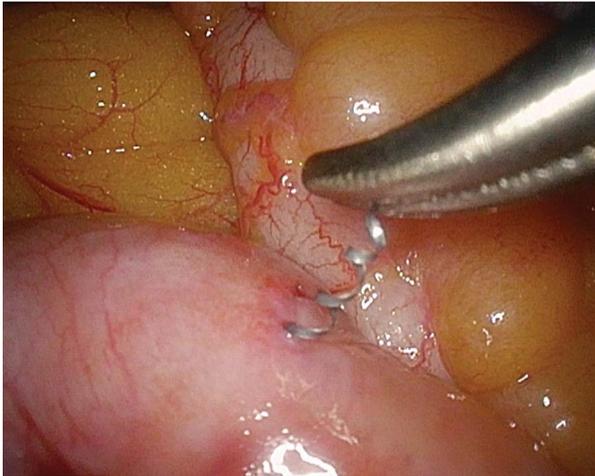


Fig. 3. Surgical image with tubal occlusion contraceptive coil in the ileum.

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DISCUSSION

Although a common adverse effect of tubal occlusion contraceptive placement, patients reporting persistent pain should prompt the possibility of malposition and perforation. In a phase II clinical trial, 99% of participants had improvement of postprocedural pain within 7 days. The majority (59%) of participants had resolution within 1 day.⁷ The rate of uterine or tubal perforation was reported at 2.6% in the same trial. Rarely, tubal occlusion contraceptive migration into the abdominal cavity can occur with an incidence of

0.1% previously reported.⁸ Methods to improve visualization and decrease migration at the time of insertion include tubal occlusion contraceptive placement during the follicular phase of the menstrual cycle and hormonal pretreatment. Administration of nonsteroidal antiinflammatory medications should be considered to decrease fallopian tube spasm.³

Tubal occlusion contraceptive manufacturers recommend a hysterosalpingogram at 3 months postprocedure to evaluate for tube patency or malpositioning.⁷ Often this can be performed earlier if there is suspicion of misplacement. However, other imaging methods such as ultrasonography, flat plate radiography, computed tomography scan, and magnetic resonance imaging have been described in evaluation of tubal occlusion contraceptive adverse events. Intraoperative fluoroscopy can be considered to localize the tubal occlusion contraceptive within the pelvis or abdomen.⁸ There should be a low threshold for imaging women who present with pain after tubal occlusion contraceptive placement.

Our case illustrates a rare but significant complication of tubal occlusion contraceptive placement. Only two similar cases have been reported in the literature. Morbidity to this patient was minimized as a result of the timeliness of diagnosis and the availability of a skilled laparoscopic colorectal consultant surgeon.

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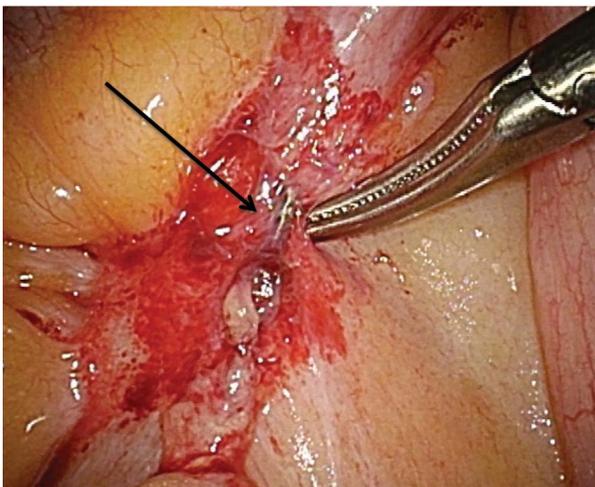


Fig. 4. Surgical image with tubal occlusion contraceptive coil visualized on the opposite side of the ileum.

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