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Case Report

Management of Perforated Essure with Migration into Small and Large Bowel Mesentery

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ABSTRACT The Essure permanent birth control system (Conceptus Inc, San Carlos, CA) is currently the only Food and Drug Administration–approved hysteroscopic sterilization method and has been widely accepted as a safe and effective procedure. We present a rare case of tubal perforation, coil fragmentation, and distal migration into small and large bowel mesentery 8 days after the insertion of the Essure device. We describe the successful management of this complication using laparoscopy and intraoperative fluoroscopy. Providers using Essure must be aware of the possibility of fragmentation of the Essure coils. Intraoperative imaging, ideally fluoroscopy, should be strongly considered in the management of Essure migration to ensure localization and full retrieval of Essure material. Journal of Minimally Invasive Gynecology (2015) 22, 504–508 © 2015 AAGL. All rights reserved.

Keywords: Essure; Fluoroscopy; Laparoscopy; Tubal perforation

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Permanent sterilization is generally regarded as a safe and effective method of contraception and has been reported as the most common form of contraception worldwide [1,2]. The Essure hysteroscopic tubal occlusion device (Conceptus Inc, San Carlos, CA) allows patients the option of permanent sterilization while avoiding incisions, decreasing procedure cost and operating time, and offering the option of placement in an ambulatory setting [1,3]. The Essure system involves hysteroscopic placement of a small, nickel titanium–based coiled microinsert into each fallopian tube, leading to tubal occlusion through an inflammatory tissue reaction. However, as with any surgical procedure, rare complications after Essure placement have been reported. Based on a PubMed database search using the terms "Essure sterilization," "Essure tubal occlusion complications," and "Essure perforation," the most common adverse events cited include perforation, incorrect placement, and expulsion of Essure coils [4–6]. A few recent case reports have also described migration or perforation of the Essure device with subsequent bowel injury and bowel obstruction, and both laparoscopy and laparotomy have previously been used to manage such rare complications [7–9]. We present a rare case of tubal perforation, coil fragmentation, and distal migration into the small bowel mesentery 8 days after an Essure insertion. Laparoscopy with intraoperative fluoroscopy was used successfully in order to localize and remove the fragmented Essure coil. To our knowledge, this case is the first to show the use of intraoperative imaging in conjunction with a minimally invasive surgical technique to manage an Essure perforation. This report was exempt by our institution's institutional review board.

Case Report

A 32-year-old woman, gravida 2 para 2, presented to her primary gynecologist's office for Essure hysteroscopic tubal occlusion. Her procedure history included 2 vaginal deliveries, 2 loop electrosurgical excision procedures, and an appendectomy. She was otherwise healthy without significant past medical history. After obtaining informed consent, the

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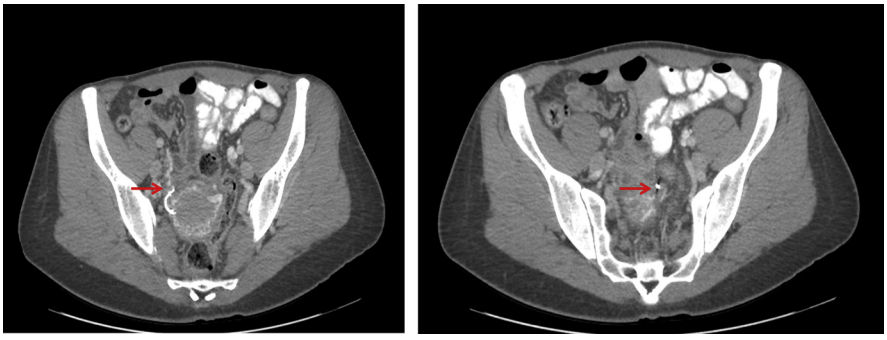
Fig. 1

A CT scan showing a correctly placed Essure device (*arrows*) at the right cornual tubal junction (left) and a portion of the Essure device at the left cornual tubal junction (right).



patient underwent in-office Essure placement using a 30° hysteroscope. The procedure was performed without difficulty, and there were 2 trailing coils noted bilaterally. The patient received an injection of Depo-Provera (Pfizer Inc., New York, NY) and was then discharged home in stable condition.

On postoperative day 8, the patient was seen again in her gynecologist's office secondary to worsening abdominal pain for 24 to 48 hours. She described her pain as a diffuse, sharp pain and severe cramping in the upper and lower abdomen. The pain was exacerbated by movement and improved with rest. She also noted loose stools since the onset of pain. Her symptoms were not associated with fevers, chills, nausea, or emesis. Vital signs showed a temperature of 36.9°C, blood pressure of 111/74, and pulse of 78 beats/min. An abdominal examination showed diffuse upper and lower abdominal tenderness with mild guarding. There was significant uterine and bilateral adnexal tenderness without any abnormal vaginal discharge. A pelvic ultrasound confirmed the presence of an Essure device in the right fallopian tube; however, it did not show an Essure device in the left fallopian tube. The uterus and both ovaries appeared normal on ultrasound without signs of hydrosalpinx or free fluid in the pelvis. Given the concern for perforation and pelvic inflammatory disease, the patient was sent to the emergency department for evaluation and inpatient admission.

Upon evaluation in the emergency department, the patient's vital signs remained stable. Her white blood cell count was 9,800/mcL (normal 4,200–11,000/mcL), and her hemoglobin count was 14.3 g/dL (normal 12.0–15.5 g/dL). A computed tomographic (CT) scan with contrast was performed and confirmed proper location of the right Essure coil at the cornual tubal junction (Fig. 1). In the left fallopian tube, there was a small metal density in the expected location of the left cornual tubal junction. However, the remainder of the Essure coil was visualized in the small bowel mesentery (Fig. 2). The coil appeared to be in abutting loops of the small bowel; however, it was outside of the bowel lumen based on images. A small amount of free fluid was noted in the pelvis. There was no evidence of free intraperitoneal air to suggest bowel perforation.

Given these findings, the patient received intravenous cefoxitin and metronidazole, and subsequently transferred

Fig. 2

A CT scan with sagittal (left) and axial (right) images showing the Essure coil (arrows) overlying the small bowel.