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When an Intrauterine Device (IUD) Migrates into the Colon: A Case of Sigmoid Localization Treated Endoscopically

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Abstract

The intrauterine device (IUD) is an effective and widely used contraceptive method, but it may cause rare complications such as extrauterine migration. We report the case of a 35-year-old patient with a copper IUD inserted three and a half years earlier. One year after insertion, she no longer felt the device's retrieval strings and subsequently developed amenorrhea. Pelvic ultrasound did not visualize the IUD in the intrauterine position and revealed an ongoing pregnancy that was carried to term. Eighteen months after delivery, the patient reported perceiving a string at the anal level. Digital rectal examination confirmed its presence in the anal canal. Colonoscopy identified the IUD in the sigmoid colon, allowing complete endoscopic extraction. The postoperative course was uncomplicated. This case illustrates a rare but potentially serious complication of an intrauterine device and underscores the importance of considering extrauterine migration when the retrieval string is missing or the device is not visualized in an intrauterine position.

Keywords

Intrauterine Device, Extrauterine Migration, Uterine Perforation, Colon, Endoscopic Extraction

1. Introduction

The intrauterine device (IUD) is a widely used contraceptive method because of

its effectiveness and safety. However, it can cause complications, some of which are rare but potentially serious, including uterine perforation that may result in extrauterine migration of the device [1]. The incidence of perforation is estimated to range from 0.3 to 2.6 per 1,000 insertions [2].

Gastrointestinal migration, particularly colonic migration, remains rare but is well documented in the literature. Its diagnosis may be delayed because symptoms are often absent or nonspecific.

Management relies on removal of the device, generally via a surgical approach. However, when the IUD is accessible within the gastrointestinal lumen, endoscopic retrieval represents an effective and less invasive alternative.

We report a case of copper intrauterine device migration into the sigmoid colon, presenting atypically and successfully managed endoscopically.

2. Observation

We report the case of a 35-year-old woman with no notable medical or surgical history. From a gynecologic and obstetric perspective, she had six pregnancies, including five vaginal deliveries and one abortion. She had a copper intrauterine device (IUD) inserted for contraceptive purposes three and a half years earlier, outside the immediate postpartum period and in the absence of breastfeeding. No technical difficulty or immediate complication during insertion had been reported.

One year after insertion, she could no longer feel the IUD string intravaginally. Subsequently, she developed secondary amenorrhea. The pregnancy test was positive. The IUD string was not felt during digital vaginal examination. Pelvic ultrasound did not visualize the device in an intrauterine position but demonstrated an ongoing singleton intrauterine pregnancy. At that stage, the absence of visualization of the IUD within the uterine cavity was interpreted as a probable spontaneous expulsion of the device, and no further localization investigations were performed. The pregnancy was carried to term, with vaginal delivery of a healthy live newborn.

Eighteen months after delivery, the patient presented with the sensation of a thread at the anal level, without abdominal pain, rectal bleeding, or bowel habit disturbances transit, and without any other associated gastrointestinal symptoms. Digital rectal examination confirmed the presence of a thread in the anal canal. Follow-up abdominopelvic ultrasonography did not identify an IUD in the intrauterine position. In light of these findings, migration of the IUD to the colon, probably secondary to an unrecognized uterine perforation, was suspected. An abdominopelvic CT scan was not performed because the IUD string was perceptible at the level of the anal canal on clinical examination, suggesting a distal digestive localization accessible by endoscopy, and the patient had no signs of peritonitis or digestive complications.

A colonoscopy was performed in the operating theatre under general anesthesia. It revealed the IUD in the sigmoid colon, 20 cm from the anal verge (**Figure**

1). The arms of the device were embedded in the sigmoid mucosa (Figure 2), whereas the stem and the string were floating within the colonic lumen. The surrounding mucosa was inflamed.

Figure 1. IUD in the sigmoid colon.

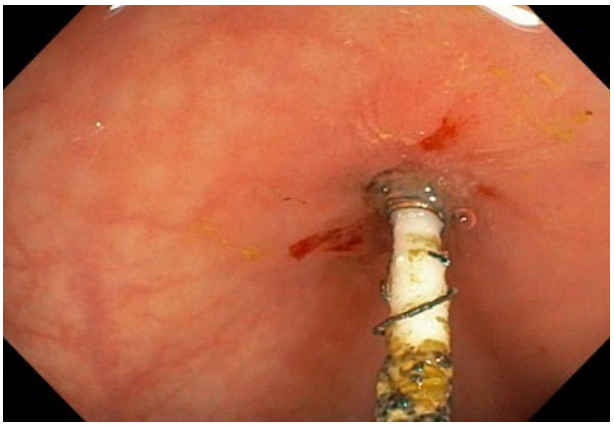

Figure 2. Embedding of the IUD arms into the sigmoid mucosa.

Endoscopic extraction was performed during the same procedure, in the presence of the surgical team, in order to allow immediate surgical management in the event of complications or failure of endoscopic removal. The IUD was completely removed, in a single piece, by gentle traction using biopsy forceps (Figure 3). Post-extraction examination showed an inflamed mucosa at the site of embedding in the sigmoid colon (Figure 4). No active bleeding or obvious parietal defect requiring endoscopic closure was observed after extraction.

The immediate postoperative course was uncomplicated. The patient was monitored for 24 hours. She reported neither abdominal pain nor signs of peritoneal irritation. The plain abdominal radiograph performed after the procedure showed no pneumoperitoneum. The patient was re-evaluated on postoperative day 10, with no abdominal pain, fever, rectal bleeding, bowel habit disturbances, or any other digestive symptoms. No delayed complication or secondary surgical intervention was observed. The outcome was favorable.

Figure 3. IUD after extraction.

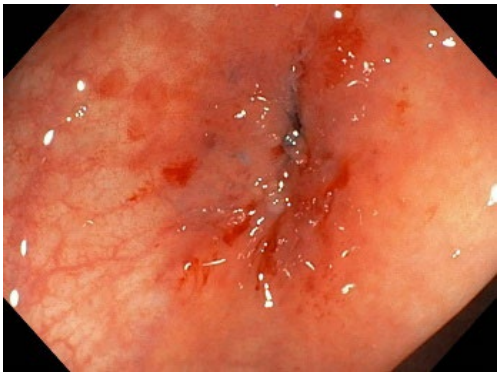

Figure 4. Site of IUD embedding after extraction.

3. Discussion

IUD migration is a rare but potentially serious complication. It most often results from uterine perforation occurring at the time of insertion or secondarily, facilitated by factors such as the postpartum period, breastfeeding, difficult insertion, uterine anomalies, or the operator's experience [3].

In the context of pregnancy with an IUD, when the device is not visualized within the uterine cavity on ultrasound, it may be mistakenly considered to have been spontaneously expelled [4]. In our case, the disappearance of the string on intravaginal examination, together with the lack of visualization of the IUD in an intrauterine position, should have prompted earlier consideration of extrauterine migration.

Gastrointestinal localizations are rare but well documented. When it migrates to the gastrointestinal tract, the IUD most commonly involves the sigmoid colon (40.4%), followed by the small intestine (21.3%) and the rectum (21.3%) [5]. In our case, migration involved the sigmoid colon. Clinical presentation is variable, ranging from asymptomatic forms to abdominal pain, bowel habit disturbances, and complications such as rectal bleeding, abscess, fistula, or perforation [6]. In our case, the presentation was atypical, identified late through detection of the thread at the anal level, without associated gastrointestinal symptoms.

Imaging plays a key role in diagnosis. Pelvic ultrasound can be used to assess

whether the IUD is in an intrauterine position. If it is not visualized, an extrauterine location should be suspected. Abdominopelvic CT is the reference examination for precisely localizing the device and identifying potential complications [7]. In our case, the diagnosis was confirmed by colonoscopy.

Removal of the IUD is recommended, even in the absence of symptoms, given the risk of long-term complications [8]. The surgical approach, particularly laparoscopy, remains the most frequently reported. However, when the device is accessible within the gastrointestinal lumen, especially in the distal colon or rectosigmoid region, endoscopic removal represents an effective and less invasive alternative [5] [8]. In our case, successful complete en bloc endoscopic removal was achieved without complications.

4. Conclusion

Migration of an intrauterine device is a rare but potentially serious complication. It should be considered whenever the retrieval string is missing or the IUD is not visualized in the intrauterine position. Diagnosis relies on imaging and endoscopy. Removal is recommended to prevent complications, and the endoscopic approach is an effective and less invasive alternative when the device is accessible within the gastrointestinal lumen.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and the accompanying images.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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