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Perioperative Nursing Experience of a Case with Intrauterine Device Ectopia to the Stomach

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Abstract: *Objective*: To summarize the perioperative nursing strategies of a patient undergoing laparoscopic retrieval and partial gastrectomy because of the gastric migration of an intrauterine device. *Methods*: The following individualized care strategies were implemented: preoperative psychological optimization using cognitive-behavioral counseling, modified bowel preparation, accelerated postoperative recovery through early ambulation and stepwise nutritional advancement, strict condition monitoring of the patient, multimodal step analgesia, early tube removal, integration of medical and nursing checkups, and nursing measures using traditional Chinese medicine. *Results*: The patient was discharged from the hospital smoothly after 8 days. A follow-up visit was conducted one-week post-discharge, during which the patient's general condition was assessed as good, and no complications were reported. *Conclusion*: The use of individualized nursing strategies has aided in the smooth postoperative recovery of patients with ectopic intrauterine devices while improving the quality and safety of nursing.

Keywords: Intrauterine device migration; Partial gastrectomy; Laparoscopic surgical procedures; Perioperative nursing

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1. Introduction

The intrauterine device (IUD) is a long-acting and highly effective contraceptive method, serving as one of the primary choices for women of reproductive age [1]. IUD migration refers to the displacement of the device from its normal position within the uterine cavity, with partial or complete embedding into the myometrium, or ectopic migration to the abdominal cavity, broad ligament, or other locations. Its incidence is approximately 1 in 2,500 cases [2]. Most patients with IUD migration are asymptomatic; however, some may present with pelvic pain, infection, intestinal obstruction, or urinary symptoms [3]. When the IUD migrates into the stomach, it may even lead to severe complications such as gastrointestinal bleeding.

In June 2025, our hospital admitted a patient with IUD migration into the stomach. The patient underwent laparoscopic gastrotomy for foreign body removal combined with partial gastrectomy. She was discharged after 8 days of hospitalization and demonstrated satisfactory recovery during a follow-up visit one week later. The perioperative nursing experience for this case is summarized as follows.

2. Case presentation

2.1. General information

The patient was a 37-year-old woman with a body mass index (BMI) of 19.65 kg/m^2. Her past medical history was unremarkable, with no known major illnesses. On June 29, 2025, she presented to the outpatient department of our hospital with a complaint of mild abdominal pain and distension for three days. An X-ray of the abdomen showed complete displacement of the intrauterine device. Transvaginal three-dimensional color Doppler ultrasound revealed a uterus of normal size, no IUD echogenicity within the uterine cavity, and a small amount of fluid in the Douglas pouch. Abdominal CT showed a dense T-shaped shadow in the middle abdomen, one end of which pierced the greater curvature of the gastric antrum into the gastric lumen, with slight fluid in both the uterine and pelvic cavity. A diagnosis of IUD migration was made. The patient was then admitted under the diagnosis of "displaced intrauterine device".

All routine laboratory tests, including complete blood count, coagulation profile and serum human chorionic gonadotropin, were within normal limits. Bowel and bladder functions were normal since the beginning of symptoms; there was no abnormal bleeding from the vagina, menstruation was regular with a moderate flow, and there was no dysmenorrhea. Her last menstrual period was on June 15, 2025. The personal history revealed two prior cesarean sections in 2010 and 2016 performed at external hospitals, and insertion of a T-shaped IUD at a local facility in 2017, with no regular postoperative follow-up thereafter.

2.2. Treatment and outcome

On July 2, the patient underwent laparoscopic retrieval of the intra-gastric foreign body and partial gastrectomy under general anesthesia. Intraoperative exploration revealed no ascites, and a cesarean section scar was visible on the uterine surface. The IUD was found to have completely migrated: one end had penetrated the greater curvature of the stomach into the gastric cavity, while the other end was encapsulated by the omentum with granuloma formation. A portion of the dark IUD tail filament was freely suspended within the abdominal cavity. An ultrasonic scalpel was used to dissect and excise the omental and granulomatous tissues surrounding the IUD during surgery and to free the device. A gastrotomy was then performed with ultrasonic assistance for the retrieval of the IUD, which was confirmed to be intact upon retrieval. The gastric incision was stapled with a 60 mm linear stapler and further reinforced by continuous seromuscular suturing with 3–0 absorbable sutures. One abdominal drainage tube was placed adjacent to the gastrotomy site. Postoperative prophylactic antibiotics, fluid resuscitation, and nutritional support were given.

The patient's vital signs had been stable since the operation. About 100 mL light reddish serosanguineous fluid had been drained from the abdominal tube; the wound dressing was clean and dry, and there was no bleeding from it. There was no abdominal pain, distension, or abnormal vaginal bleeding. On July 7 (the fifth day after the operation), the body temperature was normal, intestinal function had returned to normal, the incision showed primary healing, and thus all discharge criteria had been met. On July 14, one week after discharge, follow-up

through telephone communication revealed that diet, activity, and bowel and bladder functions were normal with no discomfort.

3. Nursing care

3.1. Psychological nursing

Due to the particularity of this condition, patients often feel a great psychological burden and a sense of stigma [4]. On admission, the patient's psychological status was evaluated by the Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS); scores were 58 and 52 points, respectively, indicating mild anxiety and depression. Accordingly, a professionally trained "Sunshine Angel" psychological nursing team was assigned to intervene. Employing narrative nursing techniques, the patient was encouraged to express her inner concerns. The main stressors identified included a lack of understanding regarding the gastric migration of the IUD and fear of postoperative fertility impairment.

According to the findings, disease education and emotional support were given through individualized psychological intervention, as well as family-assisted "dual synchronized" counseling sessions. Moreover, the patient was guided into the MBSR exercises to decrease anxiety. On postoperative day 3, reassessment showed that there was a marked improvement in psychology; SAS and SDS dropped to 42 and 45, respectively, indicating that anxiety and depressive symptoms had been relieved.

3.2. Preoperative preparation

On the night before the operation, instruct the patient to take sodium phosphate powder orally for bowel preparation. Fasting was started six hours before the operation. Give the patient 400 mL of a 12.5% carbohydrate beverage 2–3 hours before the operation, which will facilitate the emptying of the small intestine and avoid jejunal content reflux into the abdominal cavity, thus reducing postoperative complications. Insert a routine nasogastric tube on the day of surgery and perform vaginal irrigation with 0.5% povidone-iodine solution. The skin preparation of the surgical site should be performed strictly, including shaving of abdominal hair and disinfection of the skin surface to prevent inadvertent injury of the skin and minimize the infection rate at the incision site.

3.3. Postoperative nursing care

3.3.1. Vital signs and condition monitoring

After arrival at the ward, there was a complete handover from the operating room to the ward nurses concerning vital signs, intraoperative medication, estimated blood loss, anesthesia status, and incision condition. Continuous electrocardiographic monitoring was maintained during the postoperative period to observe blood pressure, heart rate, respiration, and oxygen saturation until the stabilization of the patient. The abdominal dressing was closely watched for bleeding or seepage; symptoms such as abdominal pain, distension, nausea, or vomiting were monitored. The time of the first passage of flatus and defecation was noted to assess intestinal recovery, while vaginal bleeding was also observed. Abnormal findings should be promptly reported to the physician for immediate management.

3.3.2. Pain management

Intraoperative injection of liposomal bupivacaine to the incision site was performed at the end of surgery in order

to relieve postoperative wound pain. After surgery, a stepwise analgesic treatment regimen was followed; basic analgesia with intravenous flurbiprofen axetil 50 mg was administered every 12 hours. Additional medication included 50 mg of tramadol for breakthrough pain. In addition, dynamic pain assessments were performed by the nurses who recorded, every 4 hours, the degree of pain according to the Numerical Rating Scale, especially during physical activity. The aim was to keep the NRS score at ≤ 3 within the first 24 h after surgery.

3.3.3. Drainage tube management

The use of drainage tubes should be subjected to the principle of early removal to facilitate recovery. Intraoperatively, the nasogastric tube was removed before leaving the operating room. After returning to the ward, one urinary catheter and one abdominal drainage tube were retained. These should be fixed securely and correctly labeled to ensure their patency and prevent dislodgment. Observe and document drainage characteristics carefully, such as colors, volumes, and nature. According to the progress in recovery, when the patient regained full consciousness, the urinary catheter should be removed to restore spontaneous urination. The abdominal drainage produced approximately 100 mL of light blood-tinged fluid over the first three postoperative days, without signs of ongoing bleeding, intra-abdominal infection, or intestinal leakage; thus, the drainage tube was removed on postoperative day 3 [5].

3.3.4. Positioning, early ambulation, and rehabilitation exercises

Due to pneumoperitoneum during laparoscopic procedures, patients are prone to postoperative abdominal distension and transient ileus. Early mobilization facilitates the expulsion of residual intra-abdominal gas, relieves bloating, enhances gastrointestinal motility, promotes wound healing, and prevents complications such as deep vein thrombosis. Four hours after surgery, the patient's bed head was elevated to 30–45° and the foot end to 10–15°. After a 30-minute adaptation period, the position was adjusted to a semi-recumbent posture. The patient was encouraged to sit up and engage in mild activity that same evening for at least two hours. Beginning on postoperative day 1, under nursing supervision, the patient performed ankle pump exercises and ambulated four times daily for 15–20 minutes per session, with gradual increases based on tolerance. Respiratory exercises, including pursed-lip breathing, were scheduled three times daily, each consisting of ten repetitions [5].

3.3.5. Dietary care

Approximately 30 minutes after surgery, the patient was instructed to chew xylitol gum every two hours, three times daily, for about 15 minutes each time. Chewing mimics the act of eating, stimulating oral receptors and salivation, thereby promoting the recovery of gastrointestinal motility [6]. Once the patient regained full consciousness, small sips of water (about 10 mL) were permitted. In the absence of abdominal distension, pain, nausea, or vomiting, the diet was gradually advanced to normal food intake [7].

3.3.6. Application of traditional Chinese medicine nursing techniques

Traditional Chinese medicine (TCM) therapies were introduced postoperatively to enhance functional recovery. Acupressure on the Neiguan point (located two cun above the transverse wrist crease on the forearm) was performed at 0.5, 2, and 4 hours after surgery, each session lasting 15 minutes with tolerable pressure. Starting from postoperative day 2, Neiguan stimulation was performed three times daily. This approach facilitates meridian flow, harmonizes Qi and blood, and promotes intestinal peristalsis via neuro-reflex regulation [8].

Additionally, acupressure on the Taichong point (located at the depression anterior to the junction of the first and second metatarsal bones) was applied for 10 minutes twice daily for three consecutive days, effectively alleviating postoperative pain [9]. Herbal umbilical application was also employed by placing medicinal paste on the Shenque acupoint (navel), which stimulates meridian Qi flow and aids in preventing nausea, vomiting, and constipation, thereby facilitating gastrointestinal recovery [10].

3.3.7. Integrated physician–nurse ward round model

During hospitalization, an integrated physician–nurse ward round model was employed. In daily rounds, the primary nurse reported on the patient's vital signs, nursing diagnoses, assessments of his condition, and care needs to the attending physician. Based on this, the physician devised a daily treatment plan, while the nurse carried out targeted interventions: monitoring the condition, managing drainage, psychological support, and health education. This approach enhanced communication among medical staff, nursing personnel, and the patient, therefore making recovery more coordinated and effective [11].

4. Conclusion

The migration of an IUD into the stomach cavity is extremely rare in clinical practice [12]. In this case, the IUD likely perforated through the cesarean scar and gradually migrated into the gastric cavity. This study has performed laparoscopic minimally invasive surgery to remove the ectopic IUD foreign body and implemented a personalized perioperative nursing plan. This approach effectively ensured patient safety during the perioperative period, facilitated postoperative recovery, and reduced the risk of related complications.

According to relevant clinical guidelines, patients who have undergone IUD placement should be followed up at the time of their first menstrual period or within 3–6 weeks after insertion to promptly identify potential complications such as uterine perforation or device migration [13]. In clinical nursing practice, health education for women with IUDs should be strengthened, and they should be guided to attend regular follow-up examinations to enhance the safety and effectiveness of contraceptive use.

Disclosure statement

The authors declare no conflict of interest.

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