Case Report

Ileal perforation with septic shock due to the intrauterine device migration

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Abstract

A 25-year-old woman admitted to our clinic with mild pelvic pain 45 days following intrauterine device (IUD) insertion. During vaginal examination, IUD strings were not visualized. A pelvic X-ray showed the IUD in a position left paraumbilical area. While we planned abdomino-pelvic computerized tomography (CT) imaging for the exact localization, patient developed symptoms of septic shock suddenly. Ileum perforation due to an intrauterine device was detected and the device was extracted. Intestinal perforation due to new generation uterine device is very rare condition. We found approximately fifteen bowel perforation cases described in literature before and most of them were older type devices. Early clinical diagnosis and urgent surgical removal of a perforating intrauterine device is crucial for decreasing the possible risks of abdominal complications and life-threatening conditions.

Key Words:
Intrauterine device, ileum, perforation, laparotomy

Introduction

The IUD is the most commonly used method of reversible contraception and is used by a mean of 23 percent of female contraceptive users worldwide [1]. Intrauterine contraception is in generally well-tolerated, however side-effects and complications sometimes occur. The most common problems related to intrauterine contraception with the copper T380A intrauterine device (IUD) (called TCu380A) are expulsion, malposition, strings not visible, abnormal bleeding, vaginal discharge, pelvic pain, infection, ectopic pregnancy, perforation through the uterine wall [2]. Uterine perforation occurs during IUD insertion and complicates about 1 in 1000 insertion procedures [3]. IUD migration and bowel perforation is unusual but serious complication which we found nearly fifteen bowel perforation cases described in literature before and most of them were older type devices. We aim to present a patient found to have a copper IUD perforating the ileum, causing septic shock and requiring an emergency laparotomic approach for removal.

Case Presentation

A 25-year-old gravida 2 para 2 breastfeeding woman experienced, intrauterine device (IUD) insertion 4 months after her cesarean labor. The device insertion was in family planning center and there wasn’t special event in her history. After 45 day later of insertion, she went to nearest hospital at her house for mild pelvic pain and there IUD wasn’t detected in uterus after that admitted to our tertiary clinic. Upon vaginal examination, no IUD string was noticed. An abdomino-pelvic X-ray showed the IUD in a position below left periumblical area (Figure 1). She underwent a physical examination that detected general tenderness upon abdomen and rebound tenderness wasn’t determined. Vital signs were in the normal range. Her blood workup was normal
with a white blood cell count 8780 (cells/L) and neutrophils 5040 (cells/L). An abdominal computerized tomography (CT) scan planned for the exact localization of IUD. While CT scan was expected, her overall situation suddenly deteriorated. Her body fever was 35 0C, blood pressure was 60/30 mmHg, pulse was 130/minute. She immediately monitored. Venous blood gas was compatible with metabolic acidosis. She was breathing bad. Septic shock was considered in patient. Fluid,electrolyte and sympathomimetic therapy was started and following these therapies she underwent immediate abdominal laparotomic surgery. Vertical incision performed. About 1500 cc smelly fluid discharged from abdomen when entered intraabdomen. When abdomen was visualised, uterine perforation seen at fundal area, ileal full-thickness perforation revealed and IUD detected buried in omentum (Figure 2). IUD was resected from omentum, partial omentectomy was done. Temporary ostomy done to ileum. Uterine perforation repaired primary. Abdomen was washed with 4000 cc crystalloid fluid and operation ended. She was followed at intensive care 5 day, returned to clinic and recovered dramatically.

Discussion

The shapes, components and structure of IUDs have changed widely with time around the world. The three categories of modern IUDs are copper-releasing, progestin-releasing, and unmedicated (inert). The complication of uterine perforation and extrauterine IUDs can be serious, including bowel obstruction, bowel perforation, peritoneal abscess, fistula formation and unintended pregnancy [4,5]. According to recent studies, incidence of uterine perforation due to IUD insertion is 0.87 per 1000 cases [6]. Perforation of the uterine wall and migration into the abdominal cavity usually happens at the time of insertion [7]. Risk factors for the uterine perforation include insufficient evaluation of the patients and the uterine anatomy, insertion at the postpartum period, uterine anomaly, inexperience in IUD insertion, retroverted uterus and breastfeeding [8]. Our patient was breastfeeding her baby and according to the one cohort study of over 61,000 women noticed a sixfold increase in IUD perforation in lactating women [9].
Although 85% of reported cases of uterine perforation haven’t give rise to no major complication at the time of diagnosis, 15% have showed with severe complications of visceral perforation such as IUD eroding partially or completely into the bladder, small bowel, appendix, colon or rectum [10]. Major symptoms of perforation may contain pain at time of insertion, delayed abdominal or pelvic pain and irregular vaginal bleeding [5,11]. On the other hand, many women with extraterine IUDs are asymptomatic and few cases are noticed on time of the IUD insertion [12]. Diagnosis of IUD perforation is generally done with the use of imaging methods that show the ectopic location of the device. Once question of an immigrating IUD is asserted, a plain radiograph of the abdomen should be done, followed by more certain methods such as CT imaging which assist in its localization. Once perforation has been identified, experts recommend treating the woman with antibiotics as for pelvic inflammatory disease. The WHO suggests immediate removal of all displaced IUDs once noticed, and laparoscopy is the preferential surgical technique [5,13].

Our case is unusual because general condition deteriorated immediately couldn’t planning laparoscopy. Treatment for IUD removal is surgical, either by laparotomy or laparoscopy. In most cases, the repair of IUD withdrawal and perforation results in total resolution of symptoms[14,15]. If the IUD is buried in the myometrium, operative hysteroscopy may be necessary for removal [16]. An IUD that has emigrated totally through the myometrium may be anywhere in the pelvis. Usually, it is found buried in adhesions, adherent to the sigmoid colon or omentum, or freely floating in the posterior cul de sac (pouch of Douglas) [17-24]. There are case reports of IUD perforation into the bladder; intravesical location of an IUD may cause urinary tract symptoms. Perforation into the rectum has also been noticed, but modern IUDs, including the LNG20 IUD and various forms of the TCu380A, have not been found relevant with intestinal injury. Our case is different in this respect. There are few cases reported with bowel perforation due to IUDs in the literature and in these cases patients general condition weren’t deteriorate like our patient [25]. Patients whose IUDs have perforated and been healed may be suggested another IUD, but experts offer placing next IUDs in such patients under ultrasound guidance. IUD perforation is not a contraindication to next labor and vaginal delivery, because the uterine defect is small. A literature review did not define any case reports of rupture of a pregnant uterus related with prior IUD perforation.

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Declaration of Interest
None
References