ISSN: 2149-2018

Applied Medical Research, 2022
VOL 9, NO. 2, PAGE 1 – 3
DOI: doi.org/10.47363/AMR/2022(9)219

CASE REPORT

Open Access

Intraperitoneal Coil Migration Causing Appendicular Bisection Treated By Laparoscopic Appendectomy: A Call for Alternatives

Atef MM Darwish*, Dina AM Darwish and Ahmed Dervis

Department of Obstetrics and Gynecology, Assiut University, Egypt and Inonu University, Malatya, Turkey

ABSTRACT

Objective: To describe the clinical presentation, laparoscopic findings, and management of a case of intraperitoneal migration of a copper coil with appendicular bisection and to highlight alternative approaches to avoid this serious complication.

Design: A case report.

Setting. Endoscopy Unit of a tertiary University hospital.

Patients: A multiparous woman presented with chronic pelvic pain.

Interventions: Transvaginal ultrasonography revealed a uterus free of the coil that was proved to be intraabdominal by a plain X-ray film. Diagnostic/operative laparoscopy was done with dissection of the right adnexa from the bladder and the appendix. The appendix was bisected that required laparoscopic appendectomy.

Main Outcome Measures: Efficacy of endoscopic management of appendicular involvement by a migrating coil.

Results: Laparoscopy was very effective in the diagnosis and management of appendicular bisection by a migrating copper coil.

Conclusions: Chronic pelvic pain in women wearing a coil should be meticulously assessed. Serious sequel of the migrating coil should be managed by an experienced endoscopic surgeon. Coil insertion techniques and follow-up visits should follow strict guidelines to prevent serious complications that must be included in the insertion counselling.

ARTICLE HISTORY

Received April 20, 2022
Accepted April 26, 2022
Published April 30, 2022

Keywords: Intrauterine Contraceptive Device, Copper Coil, Appendix, Perforation, Migrating, Laparoscopy, Appendectomy.

Introduction

Globally, 14.3% of women of reproductive age use Copper or hormonal coil or intrauterine contraceptive devices [IUCD] [1]. Whatever the type of device used, the global cumulative pregnancy rate was <2% at 5 years, even when used as an emergency contraception with a failure rate of 0.093% [2,3]. Despite its well-known advantages, it has some side effects and complications. Coil migration may be intrauterine, intramural, combined intramural and extrauterine, or completely extrauterine [4,5]. In this case report, laparoscopic management of appendicular bisection by a migrating coil is addressed and alternatives to avoid these serious complications will be discussed.

Case Report

A 35-year-old para 5+2+0 grand multiparous woman presented with a complaint of chronic pelvic pain (CPP) for 8 months. She had normal vaginal delivery and didn't perform any pelvic surgery before. She was wearing a coil for contraception for 4 years that was inserted 6 months postpartum during lactation after the first menstruation since delivery. She reported a prolonged and very painful insertion technique. She was examined many times at her rural locality with frequent physician assurance and frequent treatment of vaginitis and occasionally BS antibiotics with transient relief of pain. Her CPP was in the right lower abdomen and was associated with some gaseous distension. On examination, pain was characteristically located at the right McBurney's point. On vaginal examination, at least two CDC criteria for diagnosing pelvic inflammatory disease (PID) were evident. On transvaginal ultrasonography (TVS), the coil was not seen in utero but it could be seen on the uterine dome. The patient and her husband were counselled for a laparoscopic intervention to extract the migrating coil and to treat her accordingly. They consented to all surgical possibilities and clearly signed a consent form.

On laparoscopy, the right adnexa and the appendix (Ax) were amalgamated to the urinary bladder and formed a complex [Figure 1]. Blunt dissection of the Ax was meticulously performed

Contact Atef MM Darwish ✉ atef_darwish@yahoo.com Professor, Department of Obstetrics & Gynecology, Woman's Health University Hospital, 71111 Assiut P.O. Box: [1] Assiut, Egypt.

using a suction irrigation tube and blunt forceps [Figure 2] to exert a counter pressure on the uterus and adnexa till complete separation of the Ax that was bisected [Figure 3]. Extraction of a cu-T380 A coil was made [figure 4]. A decision of laparoscopic appendectomy was made using one ampoule of Vicryl 0 that had been cut into 3 pieces; a free 1/3 for tightness of the base of the appendix, another free 1/3 for tightness of the mesoappendix and the remaining 1/3 of the needle was used to take a purse string around the stump. LA started by making a small hole in the mesoappendix at the appendiculocaecal junction using a Maryland forceps. The jaws of the forceps were opened to grasp a needless 15 cm of Vicryl O suture that was tied meticulously at the base of the appendix after making 3 consecutive blunt pressures on the base of the Ax using a blunt forceps. Another hole was made beside the appendicular stump where the Maryland forceps was advanced to catch another 15 cm piece of Vicryl to be tied around the mesoappendix. Using hock scissors, the appendix as well as its meso were cut [Figure 5] and extracted via a 10 mm auxiliary portal. Any bleeding point at the stump of the mesoappendix was controlled by bipolar coagulation. Thereafter, a purse string stitches at the base of the appendicular stump using the last 1/3 of Vicryl 0 suture. Hemostasis was secured followed by repeated suction irrigation and leaving an intraperitoneal drain. The procedure was completed in 24 minutes. We reported no intraoperative complications and a smooth postoperative course with prophylactic antibiotics. The patient was put under strict observation for 2 hours postoperatively followed by removal of the drain and she was discharged and instructed not to drink unless she passes the flatus. One week later, on examination, she was clinically and sonographically free without significant complaints.

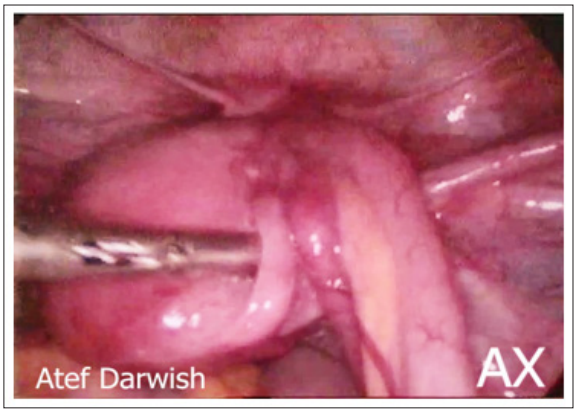

Figure 1: Tuboovarian appendicular complex adherent to the urinary bladder

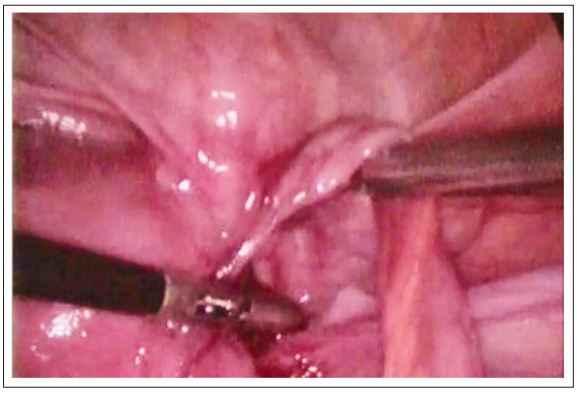

Figure 2: Blunt dissection

Figure 3: Bisected appendix

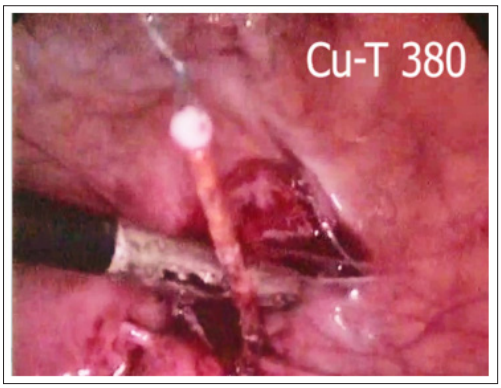

Figure 4: Missed IUCD extraction

Figure 5: Laparoscopic appendicectomy

Discussion

The appendix is the nearest pelvic organ to the genital organs. Its intraoperative assessment in gynecologic surgery is highly recommended [6]. Extrauterine migration of a coil may lead to serious complications including PID, adhesion formation, intestinal obstruction, or viscus perforation [7]. Since a long time, level I gynecologic laparoscopic training includes removal of a missed IUCD as an example of simple laparoscopic manoeuvres. Practically, not all cases of missed IUCD are straight forward as this foreign body initiates a peritoneal inflammatory reaction and more importantly may penetrate a vital organ [8]. Interestingly, the first fully LA was carried out in 1980 by a gynecologist but not a general surgeon. Due to technical difficulties and sophisticated instrumentation and expensive costs, this technique did not gain popularity among gynaecologists with slow learning cure [9]. Moreover, LA was classified as a level II laparoscopic procedure [10]. Level I laparoscopists are confronted with recommendations to extract IUCD during laparoscopy and other recommendations strictly LA only to level II or III. Most of the published case reports on this topic reported appendectomy via laparotomy [11,12].

Few case reports on LA by gynecologists were published [13,14]. In this case report, a simplified approach for LA is introduced with elimination of staples or endoloops [11,12]. Appendicular stump closure may be performed with the use of an invaginating suture. Studies advocate the use of an endostapler, endoligature [endo-loop], metal clip, bipolar endocoagulation, or polymeric clip without any published comparative evaluation of course due to the rarity of cases [8]. In this study, the usual instrumentation available at any OR were used. A very cheap approach was performed utilizing just one ampoule of Vicryl 0. This simplification would encourage gynecologists to perform LA more frequently and may fill the gap between level I and II endoscopy training. Of course, more studies are required to investigate the long-term sequels of this simplified manoeuvre.

Conclusions

Modification of insertion techniques of the coil should be discussed with all gynecologists to avoid possible complications especially for RVF uterus and during lactation. Once a difficult coil insertion is encountered, the gynecologist should avoid excessive force and the patient should be counselled for another long-acting contraception [LARC] like subdermal implants. Immediate postinsertion TVS is mandatory to ensure proper insertion of the coil. Frequent interval visits with TVS are valuable to rule out any late coil migration. Some laparoscopic surgical procedures like appendectomy or repair of a rectal injury are required for level I laparoscopic training programs to allow gynecologists to safely deal with all cases of migrating IUCD.

References

1. Buhling KJ, Zite NB, Lotke P, Black K. INTRA Writing Group. Worldwide use of intrauterine contraception: a review. Contraception. 2014; 89: 162-173.
2. Thonneau PF, Almont T. Contraceptive efficacy of intrauterine devices. Am J Obstet Gynecol. 2008; 198: 248-253.
3. Goldstuck ND, Cheung TS. The efficacy of intrauterine devices for emergency contraception and beyond: a systematic review update. Int J Women's Health. 2019; 11: 471-479.
4. Stephen Searle E. The intrauterine device and the intrauterine system. Best Pract Res Clin Obstet Gynaecol. 2014; 28: 807-824.
5. Darwish AM. Endoscopic management of a migrating intrauterine devices: a practical approach [Ed.]. LAP LAMBERT Academic Publishing 2014; 1-46.
6. Jocko JA, Shenassa H, Singh SS. The role of appendectomy in gynaecologic surgery: a Canadian retrospective case series. J Obstet Gynaecol Can. 2013; 35: 44-48.
7. Ortiz OMP, Pedraza M, Cabrera LF, Baez DK. Acute intrauterine device migration appendicitis with cecal appendix obstruction: Case report and literature review. Annals of Mediterranean Surgery 2020; 3: 3-7.
8. Coelho JC, Gonçalves CG, Graf CM. Laparoscopic treatment of peri-appendicitis caused by intrauterine contraceptive device. Arq Gastroenterol. 2003; 40: 45-46.
9. Beldi G, Vorburger SA, Bruegger LE, Kocher T, Inderbitzin D, Candinas D. Analysis of stapling versus endoloops in appendiceal stump closure. Br J Surg. 2006; 93: 1390-1393.
10. Sciusco GPA, Gurrado A, Lissidini G, Testini M. The "BASE-FIRST" technique in laparoscopic appendectomy. J Minim Access Surg. 2012; 8: 6-8.
11. Sahm M, Kube R, Schmidt S, Ritter C, Pross M, Lippert H. Current analysis of endoloops in appendiceal stump closure. Surg Endosc. 2011; 25: 124-129.
12. Gomes CA, Nunes TA, Soares C Jr, Gomes CC. Appendiceal stump closure during laparoscopy: historical, surgical, and future perspectives. Surg Laparosc Endosc Percutan Tech. 2012; 22: 1-4.
13. Grzegorz S Litynski. Kurt Semm and the Fight against Skepticism: Endoscopic Hemostasis, Laparoscopic Appendectomy, and Semm's Impact on the "Laparoscopic Revolution". JSLS. 1998; 2: 309-313.
14. Alcaraz Freijo B, López Fernández JA, Martin Bayon T, Vilanova Blanes E, Soler Mialaret L, Martínez Escoriza JC. Removal of Migrated Intrauterine Devices to Appendix, Small Intestine and Omentum: Case Reports. Surg Case Rep 2021; 4: 2-3.