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Acute Appendicitis Due to Missed Intrauterine Contraceptive Device/A Case Report and Literature Reviews

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Abstract

The intrauterine device (IUD) is one of the most frequently used reversible contraceptive methods worldwide due to its easy use, efficacy, safety, low cost and long-acting duration. However, it possesses a rare but serious complication, that is uterine perforation and migration into the abdominal cavity, with the possibility of affecting neighbouring organs. We present a case of missed (IUD) due to uterine perforation with involvement of the appendix.

Keywords: Appendicitis. IUD. contraception.

Introduction

Appendicitis is a quite common emergency surgical condition [1]. Acute appendicitis may arise from a foreign body at a rate of 0.005% among appendectomy specimens, [2]. Common foreign bodies include metal, needles, bones, stones, coins, nails and teeth, but (IUD) is relatively very rare in the literature [3].

Case report

A 44-year-old gravida 7, para 6, miscarriage 1, was seen by her family doctor several times with right loin pain radiating to right iliac fossa with fever and treated as UTI with pelvic inflammatory disease. In her last consultation, the pain was so severe concentrated in the right iliac fossa with anorexia, 2 times vomiting and fever. An (IUD) had been inserted 4 years previously. The patient claimed that she noticed a thread with a piece of metal been passed through her vagina before 2 years which was documented to be the (IUD) by her primary health care doctor, an ultrasound done for her at that time which revealed no (IUD) inside her uterus and the (IUD) presumed to have been expelled. Clinical examination showed supra pubic and right lilac fossa tenderness and rebound tenderness. The per-vaginal digital examination was normal. Laboratory data showed a white cell count of 10,500/mm3. (IUD) was visualized in the lower right quadrant on a plain X-ray as shown in figure 1.

Figure -1- plane X ray shows the missed IUD.

Abdominal US confirmed minimal free fluid at Douglas pouch and a miss located (IUD). The device could not be visualized as a hysteroscopy. At laparotomy, an inflamed appendix with its tip adherent to the right cornua of the uterus (figure 2).

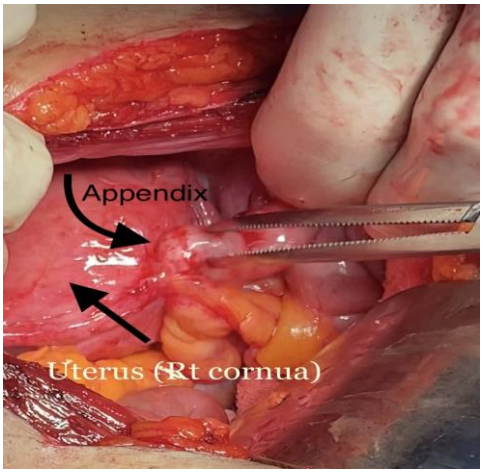

Figure -2- Tip of the appendix adherent to right cornua of uterus.

Dissection of the adhesions revealed that the (IUD) has been migrated through the lumen of the appendix and embedded inside it (figure 3,4).

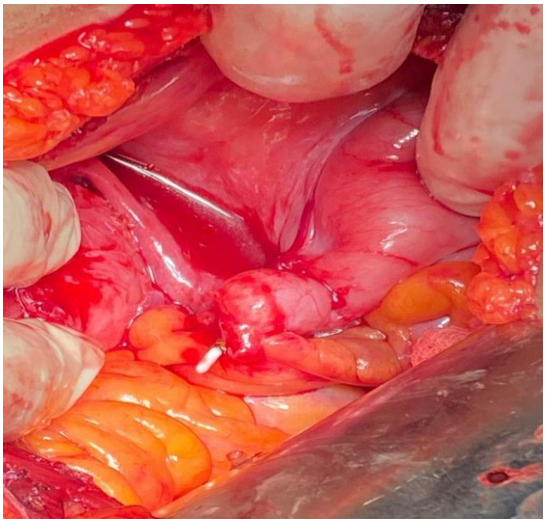

Figure -3- (IUD) inside the appendicular lumen

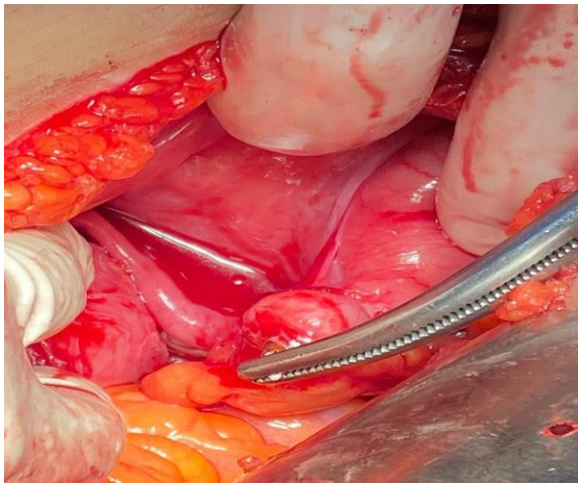

Figure -4- Extraction of the (IUD) from the appendix.

The (IUD) was retrieved in the absence of its strings and an appendectomy was done (figure 5,6).

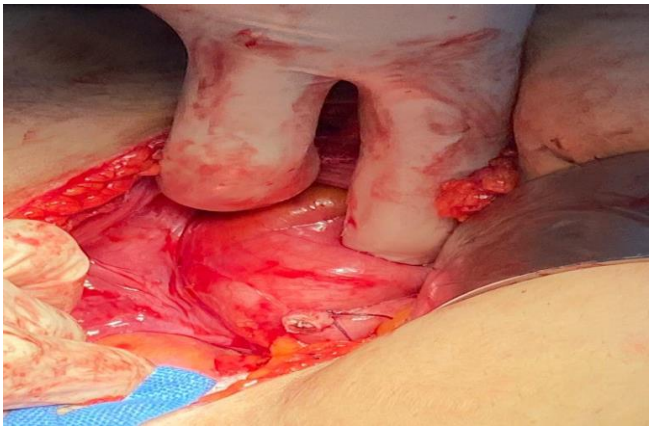

Figure -5- Appendectomy.

Figure -6- Spacemen retrieved.

The patient did an uneventful recovery and was discharged within 2 days.

Discussion

The intrauterine device is a common modality for long-term contraception and has been used throughout the world since 1965 [4]. Accompanying complications include bleeding, infection, ectopic pregnancy and uterine perforation [4] which is uncommon but yet a dangerous complication occurring in 1/350 to 1/2500 insertions [5]. Douglas pouch seems to be the most possible site of (IUD) migration but it

can involve several neighbouring organs such as the bladder, recto-sigmoid, caecum, small bowel and omentum [4]. The mechanism of perforation includes either insertion procedure technical fault or chronic inflammatory reaction with gradual erosion through the uterine wall [6] aided by spontaneous uterine contraction and pressure differences between the low intraperitoneal and relatively higher intrauterine pressure [8]. The risk of perforation is higher in uterine malposition, stenotic cervix, early postpartum insertion (first six months), lactation apart from professional inexperience [9]. There are two main types of (IUD): Non-hormonal metallic copper-releasing (IUD) and hormonal levonorgestrel-releasing (IUD) (LNG-IUD) [8]. Copper-containing (IUD) is known to cause more irritation [8]. Although translocation may have occurred at the time of insertion it does not necessarily produce signs or symptoms and the diagnosis may be accidental by imaging tests, on others, it may be with variable presentations such as pelvic, urinary or gastrointestinal pain [10]. In any instance of a missing (IUD), an abdominal X-ray, ultrasound, or hysterography is indicated to exclude perforation and/or migration [11]. If perforation of the uterus has occurred, the (IUD) should be recovered either by laparoscopy or, if necessary, laparotomy [11]. On searching various websites including Medline, Pubmed, and bioline, there are only 17 reported cases of appendectomy performed for appendicitis due to perforated (IUD) to date [12]. The 1st case reported of appendicitis resulting from (IUD) was by Rubinoff in 1975 [13], and the Last reported case of such condition was by Gulsum in 2016 [14]. It was not possible to determine how, where or when the (IUD) became involved with the appendix. Hao-Ming Chang et al [15], reported a 50-year-old patient who had (IUD) penetration at the tip of the appendix. While Ibrahim et al [16], reported a 35-year-old woman who's the (IUD) had passed towards the appendicular lumen through the ileocecal junction. In all reported cases, there was a lot of inflammation and adhesion between the uterus and appendix and a meticulous dissection had to be carried out for performing the appendectomy [16], thought to be due to copper present in (IUD). However, inflammation was also seen with non-medicated (IUD) and Lippe's loop. In most cases, there was a long time between the placement of the (IUD) and the occurrence of appendicitis. Moseley et al [17], conducted a systematic review on the removal of migrated intrauterine devices in publications, case reports, and case series worldwide till 2011. They identified 129 cases in 30 studies from 14 countries. The majority of the migrated (IUDs) are either copper-based or the lippes loop. Almost 50% of included patients were asymptomatic and had their missing (IUD) discovered incidentally. They identified that 120 cases (93.0%) were retrieved by laparoscopic surgery. 22.5% of the laparoscopic procedures were converted to laparotomy.

Conclusion

Acute appendicitis in women is likely to be mistaken with gynecological pathologies and vice versa. Women with (IUD) can be presented with acute abdomen. women with (IUD) should be alerted about the possibility of its migration. Missing (IUD) is not always due to expulsion. (IUD) can cause appendicitis.

References

1. Lewis FR, Holcroft JW, Boey J, Dunphy E. Appendicitis. A critical review of diagnosis and treatment in 1,000 cases. Arch Surg. 1975;110(5):677-684
2. Klingler PJ, Seelig MH, DeVault KR, Wetscher GJ, Floch NR, Branton SA, Hinder RA. Ingested foreign bodies within the appendix: A 100-year review of the literature. Dig Dis. 1998;16(5):308-314.
3. Sukhotnik I, Klin B, Siplovich L. Foreign-body appendicitis. J Pediatr Surg. 1995;30 (10):1515-1516.
4. Zakin D, Stern WZ, Rosenblatt R. Complete and partial uterine perforation and embedding following insertion of intrauterine devices. Classification, complications, mechanism, incidence, and missing string. Obstet Gynecol Surv. 1981;36(7):335-353.
5. EricOhanaM.D.EyalSheinerM.D.EladLeronM. D.MosheMazorM.D. Appendix perforation by an intrauterine contraceptive device. European Journal of Obstetrics & Gynecology and Reproductive BiologyVolume 88, Issue 2,

February 2000, Pages 129-131 https://doi.org/ 10.1016/S0301-2115(99)00142-6

6. Rowlands S, Oloto E, Horwell DH. Intrauterine devices and risk of uterine perforation: current perspectives. Open Access J Contracept. 2016; 7:19.
7. Eke N, Okpani AO. Extra uterine translocated contraceptive device: A presentation of five cases and revisit of enigmatic issues of iatrogenic perforation and migration. Afr J Repro. Health. 2003; 7(3): 117
8. J. Kaislasuo, S. Suhonen, M. Gissler, P. Lähteenmäki, and O. Heikinheimo, "Uterine perforation caused by intrauterine devices: clinical course and treatment," Human Reproduction, vol. 28, no. 6, pp. 1546–1551, 2013.
9. Caliskan E, Oztürk N, Dilbaz BO, Dilbaz S (2003) Analysis of risk factors associated with uterine perforation by intrauterine devices. EurJ Contracept Reprod Health Care 8:150-155.
10. McWhinney N, Jarrett R. Uterine perforation by a copper 7 intrauterine contraceptive device with subsequent penetration of the appendix. Case report. Br J Obstet Gynaecol. 1983; 90(8):774.
11. Serra I . Appendicitis caused by an intra-uterine contraceptive device. British Journal of Surgery, Volume 73, Issue 11, November 1986, Pages 927–928, https://doi.org/10. 1002/ bjs.1800731130
12. Paul1, S.K. Missed Intra Uterine Device: A Rare Indication for Appendicectomy- Case Report with Review of Literature Singhal East and Central African Journal of Surgery Volume 15 Number 2 - July/August 2010
13. Rubinoff, M.L. (1975): IUD appendicites. J. Amer. med. Assoc. 231, 67.
14. Gulsum Uysal, Hakan Nazik, Nefise Tanridan Okçu, Sevtap Seyfettinoglu, Halil Kazgan, "Surgical Removal of an Extrauterine Device Migrating to Appendix", Case Reports in Medicine, vol. 2016, Article ID 4732153, 3 pages, 2016
15. Chang HM, Chen TW, Hsieh CB, Chen CJ, Yu JC, Liu YC, Shen KL, et al. Intrauterine contraceptive device appendicitis: a case report. World J Gastroenterol. 2005;11(34): 54 14-5415
16. Ibrahim Aliosmanoglua, b, Mesut Gula, Murat Kapana, Akin Ondera, Abdullah Boyuka, Metehan Gumusa. An Exceptional Cause of Acute Appendicitis: Intrauterine Device. Journal of Current Surgery, Volume 1, Number 1, December 2011, pages 41-43. doi: https://doi.org/10.4021/jcs8w
17. Moseley FR, Shahi N, Kurer MA. Elective surgical removal of migrated intrauterine contraceptive devices from within the peritoneal cavity: comparism between open and laparoscopic removal. JSLS 2012;16 (2): 236–41

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