Missed Intra Uterine Device: A Rare Indication for Appendicectomy- Case Report with Review of Literature

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Appendicitis is a common indication for appendicectomy. Other indications are mucocele, faecoliths, calculi and tumors. Intra Uterine Device (IUD) perforation is a rare complication of IUD and it may perforate and lodge in the appendix leading to IUD appendicitis which is a rare indication for appendicectomy. We review the literature and report a case in which appendicectomy was done for IUD appendicitis due to missed IUD.

Introduction

Common indications for appendicectomy are acute appendicitis, mucocele, faecolith, calculi and tumours[1]. Misplaced intrauterine device (IUD) is a rare complication. Incidence of IUD perforation ranges from 1-3 per 1000 insertions[2]. Common sites where it may be found after perforation include broad ligament, pouch of Douglas, sigmoid colon and urinary bladder. Very rarely misplaced IUD may perforate and lodge in the appendix leading to IUD appendicitis which may be an indication for appendicectomy. There are solitary reports of misplaced IUD found in appendix and till now only 17 cases have been reported. Standard clinical protocols are available for localization and recovery of the extra uterine translocated device, and current recommendations require that all extra uterine devices should be removed from the peritoneal cavity to prevent intestinal obstruction, viscus perforation and peritonitis either by laparoscopy or laprotomy[3].

Case Report

A 22 years old lady with previous two normal deliveries and one abortion was referred to tertiary care centre with diagnosis of misplaced intrauterine device. The woman had got CuT380A inserted 3 year back at general hospital by a medical officer at six month postpartum when she was in lactational amenorrhea. One month back, she underwent suction and evacuation for termination of six weeks of pregnancy which she conceived with CuT in-situ. As CuT was not found after suction and evacuation, plain X-ray abdomen revealed IUD near right sacroiliac joint and then the patient was referred to present hospital where she was planned for laparoscopy and proceed.

On laparoscopy CuT could not be visualized due to jumbled up mass of intestine, caecum and appendix. Laprotomy was performed and after separating the adhesions, CuT was seen coming out of appendix (Figure-1).

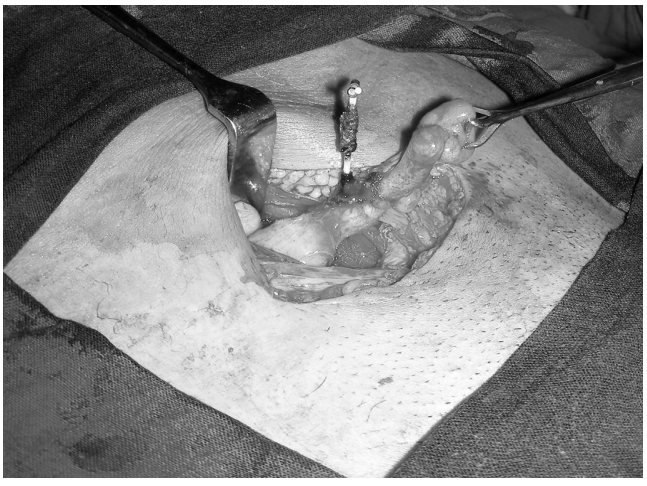

Figure1- Showing Copper T perforating appendix

Appendicectomy was performed, followed by bilateral tubal ligation. The uterus and the adnexa were found to be normal with no old site of perforation. Postoperative period was uneventful and patient was discharged after one week in healthy condition.

Discussion

Intrauterine device has been used throughout the world for almost three decades. The incidence of perforation ranges from 1-3 per 1000 insertions[2], which is affected by the IUD type, timing of insertion related to pregnancy termination, position of uterus, insertion technique, experience of operator and follow-up period. The mechanism and etiology of IUCD perforation and translocation to sites far from uterine cavity remains controversial. In addition to a primary perforation at the time of IUCD insertion, complete extrusion of IUCD through the myometrium may be aided by spontaneous uterine contraction and hydrostatic negative pressure differences between the low intraperitoneal pressure and relatively higher intrauterine pressure[4]. The migration and movement of the device in the peritoneal cavity may also be aided by the contraction of other abdominal viscera i.e. urinary bladder and small and large intestines. The myometrium has long been established as capable of spontaneous contractions in the non-pregnant and puerperal states[5]. Another possible mechanism for migration of the extra uterine IUCD is movement of the peritoneal fluid[4]. In the present case, it seems that IUD had perforated the uterus at the time of its initial insertion as at that time, the patient was in lactational amenorrhea which is a high risk for IUD perforation due to small uterus.

Copper containing devices have been shown to cause considerable tissue response when present in peritoneal cavity as was seen in present case. There was lot of granulation tissue and adhesions to the extent that laprotomy had to be performed for appendicectomy. In the present case, patient was apparently asymptomatic following insertion till she conceived. However the patient can present with symptoms of epigastric pain radiating to right iliac fossa and right lumbar region, nausea, vomiting and fever. Thus the possibility of Copper T should be kept in mind while ruling out the cause of appendicitis in a patient presenting with such symptoms.

On searching various websites like Pubmed, Medline, Scopee, bioline, till date, many cases have been reported where IUD has perforated the bowel and bladder but there are only 17 reported cases of appendicectomy performed for IUD appendicitis due to perforated IUD. The first case was reported in 1975 by Rubinoff et al[5] where the strings of Copper T intrauterine device protruded from the midportion of the appendix and the main segment of intrauterine device was palpated within caecal lumen. Appendicectomy along with closure of caecal perforation was done.

There are two case reports of IUD appendicitis in pregnancy[6,7]. In first case reported by Carson et al[6], it was interesting to find that strings of IUD (Copper T) was lying in the myometrium about one cm below the right uterotubal junction indicating the site of perforation as well. Body of the IUD, however was embedded in the lumen of appendix. Postpartum appendicectomy was done in this case. In the second case the woman had Copper T inserted 8 years back and she conceived after one year of placement. Patient had acute right lower quadrant pain in the fifth month of this pregnancy, but missed IUD could not be diagnosed. Patient continued to have right lower quadrant pain for seven years, until 20 weeks in the second pregnancy, when the symptoms got exaggerated and patient was taken up for emergency laparotomy and followed by dissection of inflamed mass and appendicectomy[7].

Out of 17 cases of IUD appendicitis reported till date, one was with Lippe's loop[8] and four cases had perforation due to Copper 7 [5,6,9,10].These cases are reported in '70's and early'80's when Cu7 and Lippe's loop were the only available IUD's. However cases reported later than that were with CuT200, MLCu375 etc. In all the cases reported, there was lot of inflammation and adhesion surrounding the appendix, thought to be due to copper present in IUD. However inflammation was also seen in a case where perforation was due to non-medicated IUD, Lippe's loop, and lot of dissection had to be carried out for performing the appendicectomy[8].

All the cases [4-20]mentioned in literature, including our present one were managed either by laparotomy or laparoscopy followed by laparotomy due to extensive inflammation and adhesions except one,

where Coelho et al[12] (2003) was able to manage it by laparoscopy alone; in spite of the presence of inflammation and adhesion. This may be due to more expertise of the surgeons in laparoscopy.

The treatment of migrated intrauterine device is surgical either laparoscopy or laparotomy and it should not be left inside abdominal cavity[3]. In any instance of missing IUD, an abdominal X-Ray, USG and hysteroscopy is indicated to exclude perforation and migration[2.] Thus, missed IUD can lead to lot of morbidity, as seen in the present case and other reported cases. So, to prevent the delayed diagnosis and morbidity, the patients with intrauterine device should be alerted about the possibility of its migration and importance of regular self examination for missing threads which is useful for early detection of migration of intrauterine device.

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