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Case Report

Laparoscopic removal of migrated IUCD from small intestine in a lactating female patient

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ABSTRACT

Uterine perforation is an uncommon complication of intrauterine device insertion, with an incidence of one in 1,000 insertions. Perforation may be complete, with the device totally in the abdominal cavity, or partial, with the device to varying degrees within the uterine wall. Some studies show a positive association between lactation and perforation, but a causal relationship has not been established. Very rarely, a device may perforate into bowel or the urinary tract. Perforated intrauterine devices can generally be removed successfully at laparoscopy.

Keywords: IUCD, Migrated intrauterine device, Uterine perforation

INTRODUCTION

Intrauterine device is a popular long-acting reversible contraceptive device implanted in the uterine cavity. IUDs for contraception were first introduced by Richter in 1909 and were further developed and deployed by Gräfenberg from 1929.[1,2] IUDs are a highly effective form of long-acting reversible contraception. Twelve-year data on the Copper-T 380A showed a cumulative pregnancy rate of 1.9 per 100 women and no pregnancies at all after year 8.[3] Worldwide over 14% of married women use intrauterine contraception.[4] The IUD has generally been safe but, there are potential side effects and complications. Some complications are common, such as abdominal pain and abnormal bleeding.[5] Other uncommon complications such as pelvic inflammatory disease, expulsion, retraction into cervix or uterus and uterine perforation may occur.[6] Uterine perforation overall is a rare complication, occurring in anywhere from 0.5 to 13 per 1000 individuals secondary to IUD placement.[6,7] While the primary cause is usually idiopathic, data suggest that perforation can be associated with the copper IUD, insertion in lactating women, a retroverted uterus, skill of the operator and lack of follow-up.[6] During full breast-feeding, estrogen levels are very low and the uterus is consequently small. As noted by Chi et al, IUD insertion is less painful in lactating women; this may be due to increased levels of β-endorphins.[9] Perforation during insertion at this time may be associated with little pain and may therefore be less likely to be noticed at the time of its occurrence. Assessment of the size and position of the uterus is essential before insertion of an IUD. Use of a uterine sound and traction with a tenaculum was suggested in 1966 and has become part of routine practice.[10] This is particularly important where there is sharp ante- or retroversion of the uterus, acute ante- or retroflexion, or a severe mismatch of flexion and version (Figure 1); if these angulations are not straightened with traction using a tenaculum then perforation is probably more likely.[11] Setting the flange on the introducer accurately to the uterine cavity length as measured with the sound is also important.

Uterine perforation can occur with the sound, with the device itself, or with both. If the sound or inserter pass further than one would normally expect (over 10-11 cm) and if no resistance is felt, then this should be regarded as

suspicious and the instrument or device immediately withdrawn from the uterus and the procedure abandoned. If perforation is suspected, an ultrasound should be carried out immediately. Most perforations occur at the time of insertion, but partial perforation with subsequent delayed complete perforation may also occur.[12] Most of these perforations remain unnoticed until the user develop symptoms like abdominal pain, diarrhoea, rectal bleed etc.[6,13] and some patients may also present with pregnancy. If an IUD cannot be found in the uterus on ultrasound, an abdominal X-ray must be done to document if it is located in the peritoneal cavity.[5]

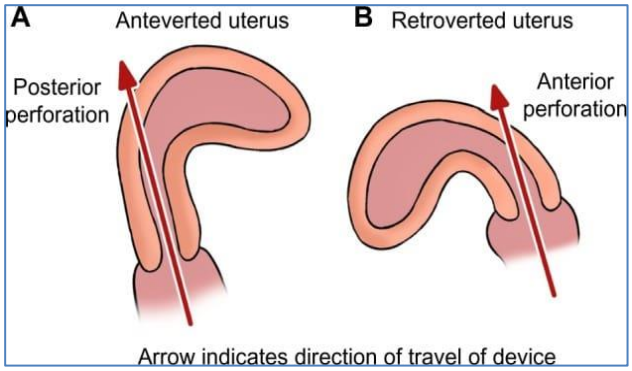

Figure 1: Possible site of perforation in sharp anteversion and retroversion of uterus.

The current recommendation is to remove all peritoneal or myometrial IUDs laparoscopically, regardless of whether or not the patient is symptomatic due to potential for fibrosis and bowel perforation.[6] The omentum (26.7%), pouch of Douglas (21.5%) and colonic lumen secondary to perforation (10.4%) were the most common sites where IUDs were found.[14]

Risk factors for uterine perforation

Risk factors are; Insertion by less experienced clinicians, Lactation, Post partum insertion (<6 months), Lower parity and Higher number of previous abortions.[15-18]

CASE REPORT

A 22-year-old, para 2, live 2, abortion 1 with one previous caesarean section appear to the OPD for the removal of IUCD (Cu- 375) which was inserted during lactational amenorrhea, at 3 months post LSCS, 9 months back. The patient has history of MTP followed by dilatation and curettage 2 days back at some nearby private hospital following the amenorrhea for 2 months. Along with dilatation and curettage, multiload removal was attempted but failed for which she was referred to SVBP hospital. Her first parity was followed by vaginal delivery, 3 years back and second parity was followed with C-section,1 year back done with the indication of transverse lie. History of Cu-375 insertion, 3 months after the C-Section in the OPD set up at some government hospital. Almost 9 months after the IUCD insertion her menses were overdue for 1 month and urinary pregnancy test at home was positive and she underwent MTP followed by DNC as described above and no IUCD felt. Then she underwent X-ray abdomen, which suggestive of a radio dense opaque linear shadow with two serrated limbs lying horizontally in the left side of pelvis likely IUCD (Figure 2) and followed by USG lower abdomen and pelvis which suggestive of retained product of conception of size (16 into 9 into 7) mm and displaced IUCD in left adnexa (Figure 3).

Figure 2: X-ray abdomen showing IUCD in left side of pelvic region lying horizontally.

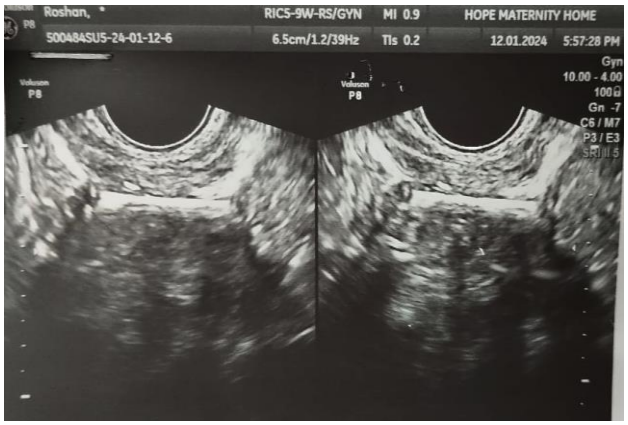

Figure 3: USG showing IUCD in left adnexal region.

At our medical college hospital, we performed first Hysteroscopy in this patient, no IUCD visualized in the entire uterine cavity, and we furthur proceeded with laparoscopy, omentum and bowel were seen adhering to the uterus especially over the previous scar anteriorly and bilateral adnexa obscured by the dense adhesions. Further, on exploring and adhesiolysis the iucd visualized, embedding in the posterior aspect of small bowel-ileal loop fat adhered to the previous scar- i.e. at bowel serosa and fat interface (Figure 4). On furthur adhesiolysis the entire multiload delineated and removed carefully with the help of grasper from the serosa of the adhered ileal loop (Figure 5) without need of converting into laparotomy . Bowel bruising seen but on milking of the bowel loop, no contents oozed out ensuring intact bowel lumen. An abdominal drain inserted at the accessory port and check

Dilatation and Evacuation done. Patient was kept nill per oral (NPO) for 48 hours post operatively and post op period was uneventful and she was discharged on 4th post-op day.

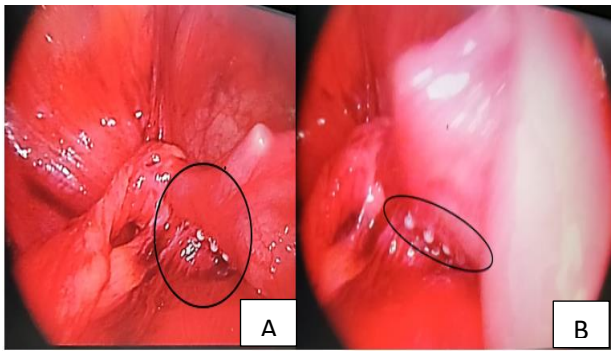

Figure 4 (A and B): IUCD embedded in wall of adhered ileal loop.

Figure 5: Removed IUCD (multiload Cu 375).

DISCUSSION

The possibility that women who are lactating are more susceptible to perforation of the uterus when an IUD is inserted was first raised in 1966.[10,20,21] This phenomenon was first investigated in a USA case-control study.[22] This study showed a tenfold higher risk of perforation in women who were lactating at the time of IUD insertion compared to women with at least one live birth who were not lactating. In this case, patient presented with pregnancy post 9 months of IUD insertion, which was inserted during lactational amenorrhea, 3 months post LSCS. She underwent MTP followed by dilatation and evacuation and along with it failed to remove IUCD. Likely the IUCD was inserted perforating the previous uterine scar into the peritoneal cavity. The misplaced IUCD remains unnoticed until the patient become pregnant and no IUCD felt during dilatation and curettage but visible on X-ray and USG abdomen. So, it is imperative that an ultrasound and possibly an abdominal X-ray be performed before the conclusion is made that it has fallen out. As the IUCD does not penetrate the bowel lumen, patients do not have any prior symptoms related to bowel, like pain abdomen, intermittent diarrhoea and constipation etc. For this rare case, after adhesiolysis we were able to remove IUD-Cu 375 safely through laparoscopy, leaving the bowel intact and without need of converting it into open laparotomy and need of ileostomy. Adhesions does not always signify an increased risk for conversion to open laparotomy. Laparoscopic removal is the most common method, but it has its limitations. In systematic review by Gill et al, 179 cases documented in literature that highlight IUD removal via laparoscopy, 64.2% were successfully completed without conversion to laparotomy. Adhesions and bowel perforation were correlated with higher rates of failure, and conversion to laparotomy.[19] Mosley et al showed in their review that surgery was attempted laparoscopically in 93% of patients, with laparotomy planned in only 7%.[20] In their study only 22.5% of the laparoscopic cases were converted to laparotomy, primarily because of fixation to adjacent organs or adhesions. However, it must be noted that their review only included cases in which the IUD was located within the peritoneal cavity; cases with penetration into adjacent organs were excluded

CONCLUSION

In a lactating female, the IUCD should be inserted carefully and preferably by the experienced clinician and patient should be counselled for the IUCD follow up, to know the status of IUCD. Before making the conclusion of fallen IUCD, in case of failed attempt to remove IUCD or missing threads, thorough work up should be done along with USG abdomen and pelvis and X-ray abdomen. For the misplaced IUCD present in the peritoneal/abdominal cavity Laparoscopic removal should be attempted and in case of IUCD perforating the bowel, other organs or dense adhesions, conversion into laparotomy should be considered along with need of additional procedures like bowel repair, ileostomy, colostomy etc.

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