

Missing IUCD Strings: Role of Imaging in Locating the Misplaced Device

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A 30-year-old woman, para 7, presented with lower abdominal pain to the Gynaecology Outpatient Clinic. She had been experiencing the pain since the insertion of IUCD six months back. She was not aware of the type of IUCD inserted. Three months after the IUCD insertion she had conceived while the device was in situ. She had undergone termination of pregnancy at seven weeks of gestation. Uterine evacuation was done elsewhere one month back and pain had worsened since then. The IUCD was not retrieved during the procedure. She had no complaints of abnormal vaginal bleeding or disturbance of bowel or bladder habits. Her vital signs were stable and systemic examination was unremarkable. IUCD strings were not visualized on per speculum examination and per vaginal examination revealed mild uterine tenderness.

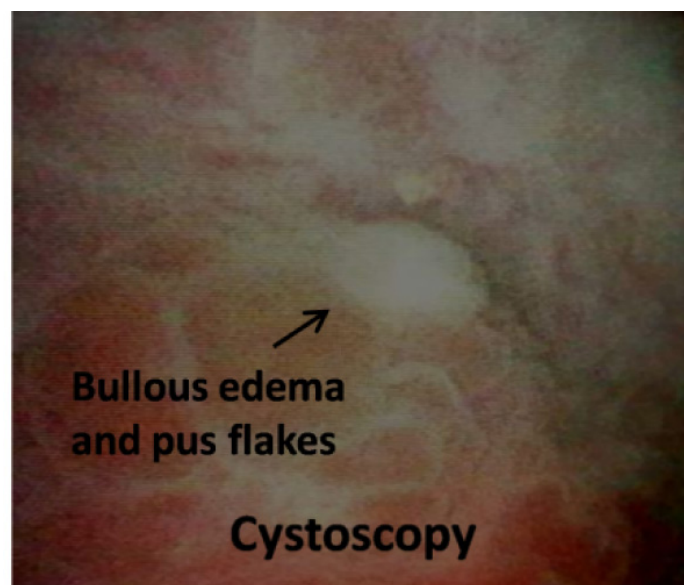
X-ray imaging showed the IUCD lying in the pelvic region [Table/Fig-1]. Transabdominal Ultrasonography (USG) showed normal endometrial stripe with no evidence of IUCD in the endometrial cavity. Hyperechoic shadows were visualised in the anterior myometrium along with a bulge in the adjacent bladder wall [Table/Fig-2]. Since perforation of the urinary bladder could not be ruled out, cystoscopy was done which revealed bullous oedema in the right lateral aspect of dome of bladder and a few pus flakes [Table/Fig-3]. However, IUCD was not visualized. Subsequently on Non-Contrast Computed Tomography (NCCT), IUCD was found lying between urinary bladder and uterus with focal thickening in right posterolateral wall of the urinary bladder [Table/Fig-4]. There was no evidence of breach in the bladder wall.

Patient was taken up for laparotomy. On opening the abdomen, the strings of IUCD were seen emerging out of the anterior wall of uterus adjacent to the bladder reflection. Sharp dissection in the uterovesical plane revealed a multiload device that had partly migrated across the uterine serosa. Its spikes were indenting the bladder wall [Table/Fig-5]. A small pocket of pus around the device was evacuated. Postoperative recovery of the patient was uneventful.

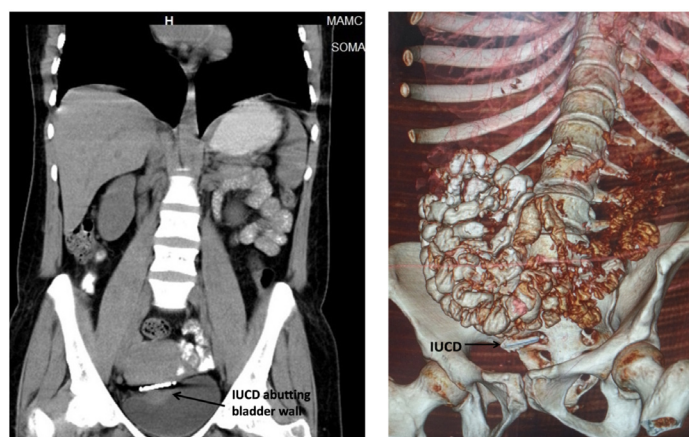
IUCD is a popular method of long term reversible contraception with failure rate of less than one per 100 women-years. Its side effects are few and generally well tolerated. Missing IUCD strings are observed in about 5% of the users [1]. The device is located within the endometrial cavity or cervical canal in 95% of the cases [2]. However, in a few cases it can perforate the uterus and migrate into adjoining structures. The underlying causes include perforation of the uterus at the time of insertion that occurs in 1-2 cases per 1000 insertions [3]. Secondary migration may occur later on due to chronic inflammation causing erosion of the uterine wall [4]. No difference has been found in the incidence of perforation for various IUCD devices [5]. Sites of migration are usually within pelvis or in omentum but at times the device may migrate far into upper abdomen. Even if asymptomatic, all misplaced IUCDs lying outside



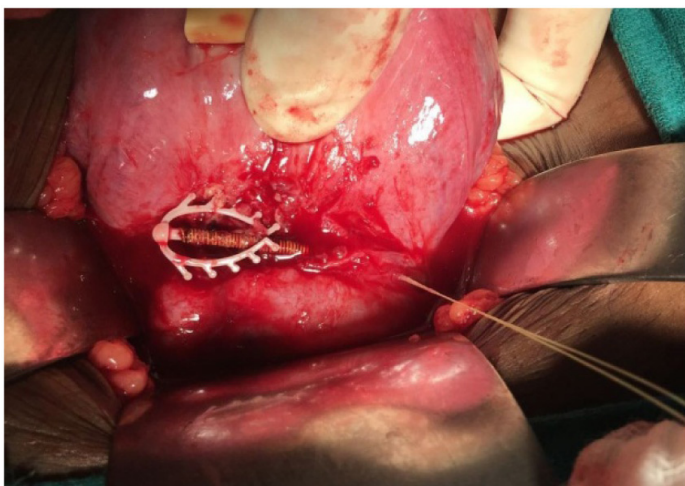
[Table/Fig-1]: X-Ray Image showing IUCD in the pelvis. [Table/Fig-2]: USG image showing bulge in bladder wall and hyperechoic shadows suggestive of IUCD.



[Table/Fig-3]: Cystoscopic view of bladder wall.



[Table/Fig-4]: CT scan and 3D image localizing the IUCD between uterus and bladder wall.



[Table/Fig-5]: Operative findings showing the multiloop IUCD buried beneath the uterine serosa with threads protruding out into the peritoneal cavity.

the uterus should be retrieved through laparoscopy or laparotomy to avoid complications like adhesions, fistula formation and intestinal obstruction.

Women with missing IUCD threads are usually asymptomatic. Some may report mild symptoms of abdominal pain with or without abnormal uterine bleeding. Occurrence of pregnancy in a woman using IUCD should raise the suspicion of misplaced device. In this case, the history of conception suggests that the IUCD was not in the correct place. There is a possibility of perforation of the uterus at the time of insertion of IUCD as patient was experiencing pain since the time of insertion. Subsequent uterine curettage could

have displaced the device further and caused local infection as evidenced by pus collection in the tissue surrounding the device. This explains the exacerbation of the pain after curettage.

Misplaced IUCD are localized with the help of imaging techniques. X-ray of abdomen or pelvic sonography is the first modality of investigation. USG usually suffices to locate the IUCD as most of the times the device is present in the uterine cavity. CT scan helps in locating the IUCD that has migrated outside the uterus. Cystoscopy helps diagnose intravesical IUCD. In the presented case, USG findings were suggestive of bladder hematoma raising the possibility of bladder perforation by the IUCD. Cystoscopy ruled out bladder wall perforation and CT scan localised the IUCD precisely. Operative findings confirmed the imaging reports.

Non visualization of IUCD strings is suggestive of misplaced device. Judicious use of multimodality imaging helps in localizing the misplaced IUCD accurately. This is essential for planning the appropriate intervention to retrieve the device.

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