

A rare, ectopic (intravesical) location of a missing intrauterine contraceptive device. A case report

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Abstract

Ectopic location of Intrauterine Contraceptive Device (IUCD) or its migration from the normal position in the uterine fundus is a frequently encountered complication. It varies from uterine expulsion to displacement into the endometrial canal to uterine perforation or intravesical migration, which is an extremely rare case. Ultrasonography was used in the diagnoses of this reported case of an ectopic intravesical IUCD.

Introduction

Intrauterine Contraceptive Device (IUCD) is a long acting contraception and is regarded as one of the most effective reversible

birth control method. An estimate of about 128 million women all over the world is using IUCD. The IUCD is commonly used because of its cost-effectiveness and low complication rates.^{1,2} However, migration of the IUCD from its normal position in the uterine fundus is a frequently encountered complication, varying from uterine expulsion to displacement in the endometrial canal to uterine perforation.³ Uterine perforation and intravesical migration is extremely rare. Once the IUCD has penetrated the bladder, it usually becomes encrusted with calculi and is associated with lower urinary tract symptoms.¹⁻⁴ The IUCD strings are used to monitor and remove the device. The presence of the string in the vagina usually suggests that the IUCD is *in situ*. A missing string is regarded as the first sign of displacement in approximately 80% of cases.⁵⁻¹⁰ However, this sign was not documented in this report but the patient was referred on the basis of inability to remove the IUCD after several attempts at removing it.

Case Report

A 40-years-old, multiparous patient was referred from an out-skirt, private hospital for abdominal X-ray examination with the history of inability to remove an IUCD haven tried unsuccessfully for the past two years, visiting various clinics without a positive outcome. A recent attempt by a private physician to remove it, through uterine evacuation was unsuccessful, and so the patient was referred for an anterior-posterior abdominal X-ray examination, which showed the IUCD within the pelvic cavity plus a ball like opacity on one of the limbs of the device, consistent with calcification or a calculus. On the basis of this, a pelvic ultrasound examination for further evaluation and to delineate the relationship between the IUCD, calculus, uterus and urinary bladder was done. It is to be noted that no previous abdominal or pelvic imaging examinations had been done before the patient was sent for the X-ray examination (Figure 1). The result showed an inverted image of a copper T IUCD (that is, the T-shaped limbs were down while the trunk of the device was directed cephalad (up) in the AP view). And there was an added ball-shaped opacity on one of the limbs.

To confirm the actual location of the IUCD in the pelvic structures, a pelvic ultrasound examination was requested for and this revealed an echogenic structure with high acoustic shadowing, with part of it connected to the anterior uterine wall in the transverse plane (Figure 2) while in the longitudinal/sagittal plane, it was contiguous with the anterior uterine wall (Figure 3). A normal pelvic sonograph showing the uterus and urinary bladder is hereby added for comparison (Figure 4). An oblique x-ray view of the pelvis was also done to further confirm the connection between the calculus and one of the limbs of the device which forms the nidus for the calcium deposition within the urinary bladder (Figure 5).

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Consent for publication: The patient gave her written consent to use her personal data for the publication of this case report and any accompanying images.

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Discussion

Ectopic location of IUCD is a known occurrence or clinical complain and is usually detected when the patient failed to fill the tag. Intestinal obstruction, vomiting, evisceration of viscous, failure of the device, painful abdominal cramps, expulsion, menstrual disturbances, increased risk of ectopic pregnancy, septic and spontaneous abortion in case of pregnancy with IUCD *in situ* and pelvic inflammatory disease are the possible complications associated with IUCD.⁷ On rare occasions, it may be abnormally located above the diaphragm or complete/partial uterine perforation like the present case discussed, in which it was located within the urinary bladder after perforation of the uterine wall. Inadvertent duplicate insertion of the IUCD has also been reported.⁸

The thrust of this paper is to let physicians know that there is need for a holistic approach in the management of missing IUCD. The radiologist plays an important role in the diagnosis of IUCD migration and should be familiar with its appearance at multiple imaging modalities.¹ The ultrasound has been the best imaging modality available for the location of a missing IUCD.¹¹⁻¹² This is because it is safe, cheap, non-invasive, accessible and does not involve the use of ionizing radiation. However, the usefulness of

plain abdominal X-rays and CT should not be overlooked. In other words, they should embrace the use of imaging modality wherever it is available and if not, referrals should be made before any inappropriate intervention to retrieve the device is done with proper

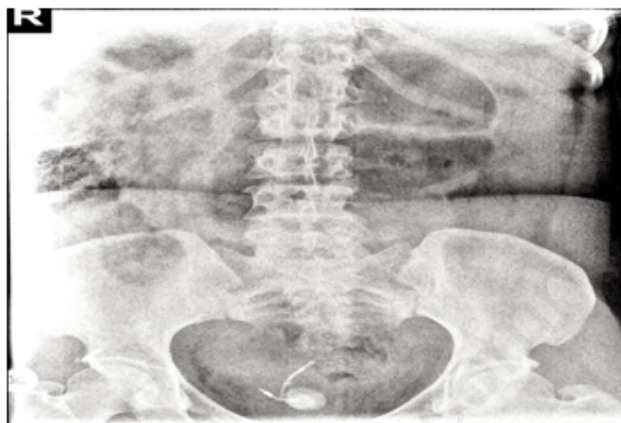


Figure 1. Radiograph showing the IUCD within the pelvic cavity with a ball-like opacity on one of the limbs of the device.



Figure 2. The transverse pelvic ultrasound examination with the IUCD to be extra uterine.

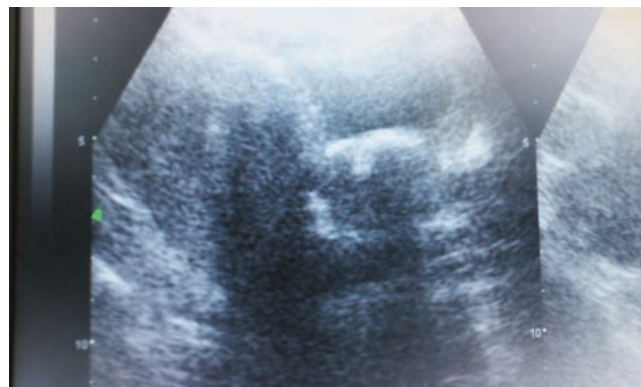


Figure 3. The longitudinal/sagittal pelvic ultrasound examination, with the IUCD contiguous with the anterior uterine wall of the uterus.

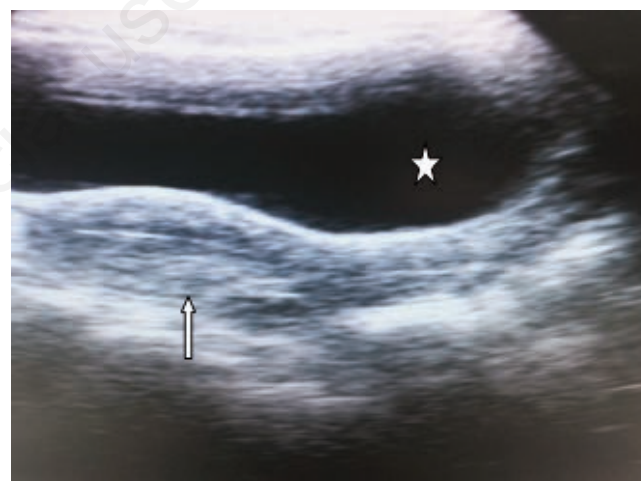


Figure 4. A normal uterus in a sagittal plane (Arrowed) and the urinary bladder anterior to it (starred).

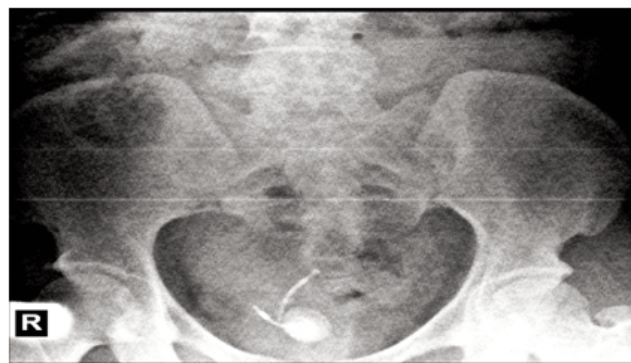


Figure 5. An oblique X-ray view of the pelvis which confirmed the attachment of the stone to the ectopic IUCD.

history taken. For instance, further questioning of the patient during the investigation confirmed she has been having intermittent haematuria, with severe pain but she didn't mention this to the referring physician because he never asked and she also thought it was part of her menstruation. In the present case, if the proper radiological/imaging assessment has been made within the 2 years period, the IUCD would have been located before the bladder stone formation. It's also possible that the migration into the bladder could have been due to the inappropriate intervention.

Conclusions

In conclusion, missing IUCD is better evaluated through proper radiological/imaging assessment. This case emphasizes the need for diligent evaluation of cases by the physician and the imaging scientist so that there will be no mismanagement or further complication.

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