African Urology 2023;3:165-167
https://doi.org/10.36303/AUJ.0117

AFRICAN UROLOGY
ISSN 2710-2750 EISSN 2710-2750

CASE REPORT

A post-hysteroscopy insertion of an intrauterine device leading to a bladder stone

J Sossa, AA Tchouasseu, L Fanou, DMI Yevi, FJM Hodonou, JGD Avakoudjo

Clinique Universitaire d'Urologie – Andrologie, CNHU-HKM, Benin

Corresponding author, email: feminawa@yahoo.com

We report a case of a 5 cm bladder stone resulting from a migrated intrauterine contraceptive device (IUD). The device was temporarily inserted as part of a hysteroscopic cure for uterine synechiae in a 36-year-old female. The stone-encrusted device was removed through a cystolithotomy.

Keywords: bladder stone, intrauterine device, hysteroscopy

Introduction

The IUD is a widely used contraceptive method. It is easy to implement, reversible and cost-effective. Still, it can lead to complications such as uterine perforation.[1] We present a case of an IUD that triggered the formation of a 5 cm bladder stone in a 36-year-old female.

Case presentation

A 36-year-old tri-parous female presented with recurrent cystitis coupled with intermittent haematuria that occurred during or after physical activities. Ultrasonography detected a stone in her bladder. An abdominal non-contrast-enhanced computed tomography confirmed the presence of a stone in the bladder (Figure 1). There was no IUD in her uterus. Her kidneys and upper urinary tract were stone-free.

We performed a cystolithotomy as we had no endoscopic equipment for cystolitholapaxy. Surprisingly, we noticed that the stone surrounded a solid rod with a protruding tip. A thread connected to the rod enabled us to identify it as a part of an IUD. The bladder mucosa appeared normal and there was no breach in the bladder wall. The stone's dimensions measured with a Vernier caliper were 4.6 × 3.3 ×2.5 cm.

Approximately seven years after the vaginal delivery of her first baby and for persisting non-gravid amenorrhea, the patient underwent a

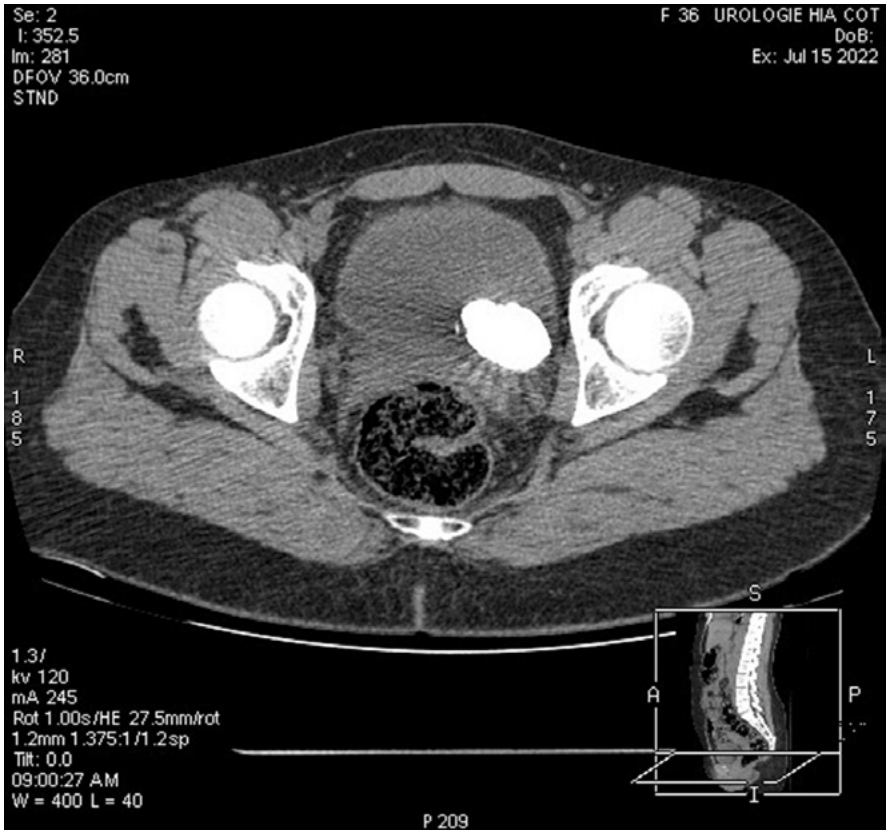

Figure 1: The bladder stone with surrounding artefacts suggesting the presence of metal; the copper part of the IUD

Figure 2: The stone with a tip of the embedded IUD

hysteroscopic cure for synechiae that resulted in the insertion of a T-shaped copper IUD. The patient claimed that her gynaecologist had removed the device three months after the hysteroscopy as scheduled and that she had never resorted to any type of contraception thereafter. Following that surgery, her menstrual cycle had returned, and she had delivered two more children. The woman stressed that after her first child's delivery, she had voluntarily undergone two surgical abortions before having uterine synechia-induced fertility trouble. She claimed that the only time she had an IUD inserted into her uterus was when she underwent the hysteroscopic cure for the synechiae. She was a fully active soldier with no chronic disease such as diabetes or hypertension.

At the time we removed the stone from the patient's bladder her three children, two daughters and one son, were aged 12.5, 4, and 1.25 years respectively. We deduced that the apparently removed IUD had instead migrated into the bladder where it induced the formation of the stone (Figure 2). The post-cystolithotomy clinical evaluation of the patient was unremarkable. She was discharged from the hospital on the fourth day postoperatively. Four weeks after the intervention, the woman resumed full physical activities with no complaint of urine leakage or other storage or voiding symptoms.

Discussion

This is a case of a post-hysteroscopy migration of an IUD from the uterus into the bladder. Interestingly, the device's insertion was part of the surgical management of secondary infertility in the woman. Had the "forgotten" device not migrated out of the uterus, it would have lengthened the woman's fertility trouble despite the successful hysteroscopy.[2]

Rare cases of migrated IUD-induced bladder stones have been reported.[3–5] The exact cause or mechanism of IUD migration is unknown. Either copper or hormone-releasing IUDs can migrate from the uterus.[6,7] The uterine perforation may start with a trauma or a progressive erosion of the uterine wall relating to the device's insertion procedure, the device's rigidity, and the uterine wall thickness or contractions.[8]

The immediate insertion of the device after the hysteroscopic removal of scary intrauterine adhesions (synechiae) without allowing the uterus to heal up, together with the fact that the uterus had previously undergone two abortion procedures may have promoted its migration.[8] Moreover, the present case was probably one of an early migration of the device, which had been misleadingly considered as removed, even if IUDs may take years to migrate outside the uterus.[8,9] Ill-insertion of the device or iatrogenic perforation of the uterus is unlikely in our patient as there had been no complaint or trouble during the period between the hysteroscopy and the device's "removal" time. IUDs commonly migrate to the bladder but also to other uterus-neighbouring organs, such as the broad ligament.[6,10] Our patient's claim that the device had been removed is untrue.

Women with IUDs should be counselled to make sure that their care provider shows them the device after it is removed. Besides this, they should be properly educated to routinely check the presence of the IUD's strings during vaginal douching and signal its absence to their care provider. The latter should use imaging to clarify any doubtful absence of an IUD at removal time. Furthermore, gynaecologists should avoid immediate IUD insertion after endo-uterine surgery, such as a hysteroscopic cure for synechiae, to prevent the migration of the device.

In our opinion, cystolithotomy may be better than cystolitholapaxy because after removing the encrustation from a copper IUD, it may not remain flexible enough to be easily removed through the urethra.

A crucial issue is future contraception in IUD-migration-affected women. To avoid possible recurrence of device migration to unpredictable sites, a woman with a history of IUD migration to the bladder should cautiously resort to subcutaneous implantable devices for future contraception. To our knowledge, no post-hysteroscopy IUD migration similar to the present case has been reported. Regarding recurrent cystitis in adult females, a thorough gynaecological history coupled with urinary tract imaging, such as ultrasonography, X-ray or computed tomography, would allow the early detection of an IUD that had migrated into the bladder.[4]

Conclusion

The urologist should consider the presence of a migrated IUD in child-bearing-aged women who present with recurrent cystitis. The gynaecologist should look for an IUD in the bladder with the help of the urologist whenever an IUD ablation is doubtful or unclear.

Conflict of interest

The authors declare no conflict of interest.

Funding source

None

Ethical approval

The authors declare that this submission is in accordance with the principles laid down by the Responsible Research Publication

Position Statements as developed at the Second World Conference on Research Integrity in Singapore, 2010.

ORCID

J Sossa https://orcid.org/0000-0002-7111-9426
AA Tchouasseu https://orcid.org/0000-0001-5362-5651
L Fanou https://orcid.org/0000-0002-0358-2961
DMI Yevi https://orcid.org/0000-0002-2504-5403
FJM Hodonou https://orcid.org/0000-0003-0989-0380
JGD Avakoudjo https://orcid.org/0000-0001-6987-6578

References

1. Istanbulluoglu MO, Ozcimen EE, Ozturk B, et al. Bladder perforation related to intrauterine device. J Chin Med Assoc. 2008;71(4):207-9. https://doi.org/10.1016/S1726-4901(08)70105-9.
2. Tosun M, Celik H, Yavuz E, Çetinkaya MB. Intravesical migration of an intrauterine device detected in a pregnant woman. Can Urol Assoc J. 2010;4(5):E141-3. https://doi.org/10.5489/cuaj.938.
3. Adhikari R, Baral HP, Bhattarai U, et al. A rare case report of giant urinary bladder stone causing recurrent dysuria in a woman. Case Rep Urol. 2022;2022:4835945. https://doi.org/10.1155/2022/4835945.
4. Aggarwal S, Jindal RP, Deep A. Intravesical migration of intrauterine contraceptive devices with stone formation. J Family Med Prim Care. 2014;3(4):449-51. https://doi.org/10.4103/2249-4863.148147.
5. Cassell A, Jalloh M, Diallo A, et al. Lithiase vésicale sur dispositif contraceptif intra-utérin ayant migré dans la vessie: à propos de deux cas. Uro'Andro. 2018;1(11):524-7. French.
6. Goyal S, Goyal S. Displaced intrauterine device: a retrospective study. J Med Res. 2016;2(2):41-3. https://doi.org/10.31254/jmr.2016.2207.
7. Khan ZA, Khan SA, Williams A, Mobb GE. Intravesical migration of levonorgestrel-releasing intrauterine system (LNG-IUS) with calculus formation. Eur J Contracept Reprod Health Care. 2006;11(3):243-5. https://doi.org/10.1080/13625180600557415.
8. Rasyid N, Nainggolan HJ, Jonardi PA, et al. Early-onset complete spontaneous migration of contraceptive intrauterine device to the bladder in a post C-section patient: a case report. Int J Surg Case Rep. 2021;82:105850. https://doi.org/10.1016/j.ijscr.2021.105850.
9. Dietrick DD, Issa MM, Kabalin JN, Bassett JB. Intravesical migration of intrauterine device. J Urol. 1992;147(1):132-4. https://doi.org/10.1016/S0022-5347(17)37159-8.
10. Kart M, Gülecen T, Üstüner M, et al. Intravesical migration of missed intrauterine device associated with stone formation: a case report and review of the literature. Case Rep Urol. 2015;2015:1-4. https://doi.org/10.1155/2015/581697.