

A Migrated Intrauterin Device Misdiagnosed as Bladder Stone: Case Report

Mesane Taşı Olarak Yanlış Teşhis Edilen Migrate Rahim İçi Araç

Hüseyin Buğra KARAKAŞ,^a
Engin Denizhan DEMİRKIRAN,^b
Bülent AKDUMAN^b

^aClinic of Urology,
Bozuyuk State Hospital,
Bilecik

^bDepartment of Urology,
Bulent Ecevit University
Faculty of Medicine,
Zonguldak

Geliş Tarihi/Received: 28.04.2017
Kabul Tarihi/Accepted: 31.07.2017

Yazışma Adresi/Correspondence:
Engin Denizhan DEMİRKIRAN
Bulent Ecevit University
Faculty of Medicine,
Department of Urology, Zonguldak,
TURKEY/TÜRKİYE
eddemirkiran@gmail.com

ABSTRACT The intrauterine device (IUD) is an effective, reversible and cost-effective contraception method with low complication rates. IUD dislocation and bladder wall perforation of an IUD are rare. Secondary stone formation may occur around an IUD after migration to the bladder. Patients usually apply with complaint of recurrent urinary tract infections and symptoms such as suprapubic and pelvic pain, dysuria, and gross hematuria. Such cases may require an endoscopic approach or open/laparoscopic surgery. We performed cystoscopic removal of an intravesical IUD encrusted with calculi 12 years after it was inserted.

Keywords: Intrauterine devices; urinary bladder calculi; cystoscopy

ÖZET Rahim içi araç (RİA) düşük komplikasyon oranlarıyla seyreden etkili, geri döndürülebilir ve uygun maliyetli bir kontrasepsiyon yöntemidir. RİA dislokasyonu ve RİA'nın mesane duvarını perforasyonu nadir görülmektedir. RİA'nın mesaneye migrasyonu sonrası sekonder taş oluşumu görülebilir. Hastalar genellikle rekürren üriner sistem enfeksiyonu ve suprapubik ve pelvik ağrı, dizüri ve gross hematüri gibi semptomlarla başvururlar. Bazı vakalarda ise endoskopik ya da açık/laparoskopik cerrahi gerekebilir. Biz bu vakada mesane içinde taşla çevrelenmiş RİA'yı yerleştirilmesinden 12 yıl sonra sistoskopik olarak çıkardık.

Anahtar Kelimeler: Rahim içi araçlar; mesane taşları; sistoskopi

An intrauterine device (IUD) is a reversible, cost-effective contraception method with low complication rates.¹ The incidence of uterus perforation of an IUD is 1-3 per 1000 insertions.² However, transvesical migration of an IUD is very rare. We present the diagnosis and treatment of a patient who had an IUD inserted 12 years earlier and presented with urinary symptoms after bladder migration of the IUD and stone formation.

CASE REPORT

A 34-year-old woman presented with a history of recurrent urinary tract infections, suprapubic and pelvic pain, dysuria, and gross hematuria. She had recurrent symptoms year-round. Urinalysis revealed inflammation. The complete blood count and blood biochemistry profile were within normal levels. A plain abdominal radiograph revealed a stone and metallic foreign

body in the pelvis (Figure 1). Pelvic helical computed tomography (CT) showed a stone with an irregular surface in the left posterolateral bladder (Figure 2). The patient had an intrauterine device (IUD) inserted in 2003. She gave birth twice, 3 and 6 years after insertion of the IUD. The IUD had not been found and was thought to have fallen out. Cystoscopy performed under general anesthesia confirmed the intravesical stone. Pneumatic lithotripsy was performed, and the migrated IUD was identified (Figure 3). The IUD penetrated the bladder mucosa and a bladder stone formed around the IUD. The IUD was grasped with forceps and gently extracted through the cystoscope (Figure 4). Then, cystography was performed. There was no fistula between the bladder and uterus. A Foley catheter was left in bladder for 1 day postoperatively. The patient was discharged the day after the surgery without any complications.



FIGURE 1: A plain abdominal radiograph revealed stone and a metallic foreign body opacity in the pelvis.

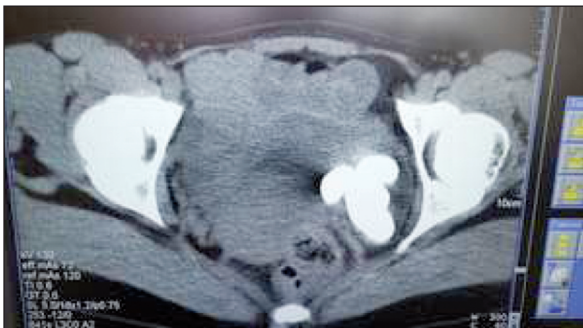


FIGURE 2: Pelvic helical computed tomography showed that a stone which was located in the left posterolateral part of the bladder.



FIGURE 3: Cystoscopy revealed a bladder stone, pneumatic lithotripsy was performed and the migrated IUD was determined.



FIGURE 4: Intrauterine device completely extracted endoscopically.

DISCUSSION

Although the reason for the uterine perforation and migration of an IUD is not clear, the complication rate varies with the size and shape of the IUD, genital infections, position of the uterus and experience of the clinician who inserted the IUD. The time of IUD placement, uterine congenital anomalies, and past surgery all increase the risk of uterine perforation.³ While uterine perforation typically occurs during insertion, migration to the bladder and symptom improvement progress slowly.⁴ The IUD in our patient had been inserted

by a non-physician after a pregnancy, and the “lost” IUD wasn’t investigated thoroughly.

In cases of a lost IUD, the symptoms vary with the location. An IUD may pass through the uterine wall into the gynecological, urinary or gastrointestinal organs. In such cases, micturition functions should be investigated and intravesical migration kept in mind. There may be secondary stone formation around the IUD after migration to the bladder. Clinicians should consider the possibility of foreign bodies whenever there is a bladder stone found in a woman. In our case, there was a history of continuous antibiotic use to treat recurrent urinary tract infections for years, dysuria, and suprapubic pain. Despite these repetitive symptoms and treatment, the patient had not been consulted to an urologist.

An IUD that cannot be found on vaginal examination requires careful follow-up. A plain pelvic x-ray should be obtained first to clarify whether the lost IUD is located in the pelvis. Abdominopelvic ultrasound is also very useful for determining the location of an IUD.⁵ In some cases, pelvic CT is necessary for a diagnosis.⁶ Our case was diagnosed by pelvic CT after detecting opacities suggestive of a stone and foreign body in the pelvis on plain x-rays.

The standard treatments for IUD migration to the bladder are minimally invasive.⁷ Endoscopic ex-

traction of a total intravesical IUD encrusted with calculi is the treatment of choice, with high success rates and low complication and morbidity rates.⁸ In this case, cystoscopic removal was successful. With large stones or with genitourinary fistula that cannot be extracted by endoscopic methods and an IUD that has only partially migrated to the bladder, open surgery or minimally invasive laparoscopic methods can be performed.^{9,10}

When investigating patients with a lost IUD complaining of micturition symptoms, chronic pelvic pain, or recurrent urinary tract infections, bladder migration of the IUD should be kept in mind. An endoscopic approach is the first treatment option.

The English in this document has been checked by at least two professional editors, both native speakers of English. For a certificate, please see:

<http://www.textcheck.com/certificate/fgbHxP>

Conflict of Interest

Authors declared no conflict of interest or financial support.

Authorship Contribution

Idea, design, analysis, drafting the article: Hüseyin Buğra Karakaş; **Drafting the article, discussion, finding sources:** Engin Denizhan Demirkıran; **Critical revision:** Bülent Akduman.

REFERENCES

1. Tunçay YA, Tunçay E, Güzin K, Oztürk D, Omurcan C, Yücel N. Transuterine migration as a complication of intrauterine contraceptive devices: six case reports. *Eur J Contracept Reprod Health Care* 2004;9(3):194-200.
2. Zakin D, Stern WZ, Rosenblatt R. Complete and partial uterine perforation and embedding following insertion of intrauterine devices. II. Diagnostic methods, prevention, and management. *Obstet Gynecol Surv* 1981;36(8):401-17.
3. Gozalan A, Zarakolu P, Dincer S, Sovuksu K, Cakir B, Esen B. The association of intrauterine device usage with bacterial vaginosis in a gynecology outpatient clinic in Ankara, Turkey. *Ann Saudi Med* 2003;23(5):315-7.
4. Younes B, Akiel A. Actinomyces-like organisms in women using intrauterine contraceptive devices (IUCD). *Ann Saudi Med* 1994; 14(5):429-30.
5. Tosun M, Celik H, Yavuz E, Cetinkaya MB. Intravesical migration of an intrauterine device detected in a pregnant woman. *Can Urol Assoc J* 2010;4(5):E141-3.
6. Mahmutyazicioğlu K, Ozdemir H, Ozkan P. Migration of an intrauterine contraceptive device to the urinary bladder: sonographic findings. *J Clin Ultrasound* 2002;30(8):496-8.
7. El-Hefnawy AS, El-Nahas AR, Osman Y, Bazeed MA. Urinary complications of migrated intrauterine contraceptive device. *Int Urogynecol J Pelvic Floor Dysfunct* 2008;19(2):241-5.
8. Yensel U, Bezircioğlu I, Yavuzcan A, Baloglu A, Cetinkaya B. Migration of an intrauterine device into the bladder: a rare case. *Arch Gynecol Obstet* 2009;279(5):739-42.
9. Liu L, Liu H, Zhang X. Intravesical migration of a Chinese intrauterine device and secondary stone formation: diagnostic investigation and laparoscopic management. *Int Urogynecol J* 2015;26(11):1715-6.
10. Vaghholkar S, Vaghholkar K. Secondary vesical calculus resulting from migration of an intrauterine contraceptive device. *Case Rep Obstet Gynecol* 2012;2012:603193.