

Female intravesical foreign body penetrating the bladder wall: a rare case of traditional Asian hair stick *kanzashi*

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June 11, 2023

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Informed consent

Written informed consent for publication was obtained from the patient in accordance with the journal's patient consent policy, provided that the patient's photographs were in grayscale.

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Keywords

Foreign Bodies, Urinary Bladder, Female Genitourinary Diseases, Abdominal Injuries, Sexual Behavior, Beauty Culture

Key Clinical Message

A female in her thirties inserted an Asian traditional hair stick, *kanzashi*, into her urinary bladder for sexual gratification. We need to know that everyday objects can become bladder foreign bodies and how to manage them properly.

Introduction

Foreign bodies (FBs) of the urinary bladder are common in urological clinical practice.^{1,2} Most FBs in the bladder are inserted through the urethra for sexual gratification and psychological condition.^{1,2} FBs vary, including plastic forks, spoons, metal screws and pieces of aluminum, pieces of cardboard and paper, staplers, writing instruments, such as pens and pencils, coaxial cables, etc.^{1,3} This unusual sexual act of FB insertion into the urethra is known as “urethral sounding.”^{4,5} It is generally rarer in females than in males² and even rarer to be inserted so deep enough into the urethra to damage the bladder.⁶ Herein, we report a rare case of a female who forcefully used a sharp hair stick for urethral sounding until it penetrated the bladder wall.

Case presentation

A woman in her thirties was referred to our center with a complaint of difficulty in removing an FB inserted into her urinary bladder through the urethra. She also complained of lower abdominal pain and admitted that she inserted the FB by herself through her urethra for sexual gratification. She had no history of illness, including a psychiatric one. Her blood sample test revealed an almost normal but slightly elevated C-reactive protein of 0.21 mg/dl. Cystoscopy was immediately performed in the outpatient care unit, which revealed a rod-shaped FB stuck into her left bladder wall (Figure 1a). Pelvic computed tomography (CT) revealed that FB had completely penetrated the left bladder wall, but its tip did not appear intraperitoneally (Figure 1b-d). She was diagnosed with bladder FB complicated by bladder perforation. She underwent a surgical exploration instead of transurethral FB excision because the presence of peritoneal injury was not excluded. The Retzius cavity was expanded and a cystostomy was made through a lower abdominal Pfannenstiel incision. The FB turned out to be a 9.5-cm long plastic Asian traditional hair stick called *kanzashi in Japanese* (Figure 2a). The peritoneum was confirmed to be intact, consistent with the CT diagnosis, although the hair stick penetrated the bladder wall (Figure 2b). The bladder wall was fixed by suturing in two layers. Her postoperative course was uneventful, and the urethral catheter was removed 6 days postoperatively after a cystography confirmed no leakage. She was recommended to stop the urethral sounding after her discharge. We also suggested that she use medical intermittent catheters instead of *kanzashi* as a tool for sounding if she could not stop it. However, she denied our suggestion, and our postoperative followup was terminated.

Discussion

Several previous reports presented FBs in the genitourinary tract.^{1,2} Ophthven and Kernion collected approximately 800 cases in English literature from 1755 to 1999.¹ Miura et al. reviewed 1,367 cases in Japan from 1917 to 1994.² Teens and twenties account for approximately half of the patients (49.2%),² with self-insertion as the most cause of FBs mostly due to psychiatric illness or sexual gratification.^{1,2} This act of inserting an object into the urethra for erotic purposes is called “urethral sounding.”^{4,5} Recent Google™ search accessed on April 27, 2023, using the term “urethral sounding” showed approximately 4,120,000 results giving abundant information about online shops selling many kinds of “sounds,” which are products solely for urethral sounding, or websites explaining how to do “sounding.” It has also increased by 7.5 times compared to the report in the last decade.⁴ An internet-based cross-sectional study in the United States (US) revealed that 10.7% of males having sex with males had engaged in urethral sounding.⁴ Similarly, another internet-based cross-sectional study in the US revealed that 24% of males with genital piercings had unusual genitourinary tract activities, including urethral sounding.⁵ So far, only data for selected male populations have been presented, and data for females remain lacking.

Bladder injuries are rare because of urethral sounding, and even rarer in females.^{6,7} From an anatomical standpoint, females may be hypothesized to have a relatively higher risk of bladder FBs complicating perforation than males because of the anatomical shortness of the urethra. However, information to support this hypothesis is not currently enough. The percentage of females among people with bladder FBs in Japan was

36%,² and the percentage of females among people with bladder FBs complicating perforation was 41%.⁶ These two pieces of information revealed no significant differences.

Almost every household tool or appliance that can be physically inserted into the urethra has been reported.³ Cotton balls, pens, thermometers, and hairpins were the most common types of FBs among females.^{2, 3} Among them, thermometers were the most common bladder FB in females with bladder injuries.⁷ However, most previous reports are considered slim cylindrical mercury-in-glass thermometers,¹¹ and have not been reported recently. This is probably because the use of flat-shaped electronic thermometers with pointed tips has become mainstream. Therefore, pens seem the latest trends.^{7,8} The current case inserted a traditional Asian hair stick called *Kanzashi* in Japanese. Several reports presented hairpins as bladder FBs,^{1, 2} but this is the first report of *kanzashi*, to our best knowledge. *Kanzashi* was usually used with kimono, which is a traditional Japanese garment (Figure 2c), and they were no longer used in everyday life with the disappearance of kimono culture in Japan. However, kimonos are recently becoming popular again in tourist areas⁹ and *kanzashi* may be used on more occasions. Urologists should be aware that anything used daily can become bladder FB.

A problematic mental background is possible in patients who put objects in the urethra. Palmer et al. reported that 86% of the patients with bladder FBs had a previous psychiatric diagnosis, including bipolar disorder, schizoaffective disorder, and antisocial personality trait.³ The act of inserting FBs into the urethra is psychiatrically defined as polyembolokoilamania.¹⁰ These patients may have recurrent bladder FBs because of this unfavorable psychiatric background. Therefore, appropriate psychiatric followup is needed for these patients.

As for treatment, FBs should be removed from the urethra if possible.⁸ However, urologists should be prepared to perform open conversion surgery at any time for safe FB removal, as in this case if bladder injury complicates.

Conclusion

The sexual preference for inserting an FB through the urethra for sexual gratification is not uncommon, but FB with bladder perforation in a female is uncommon. We should be aware that anything that is used daily can become bladder FB, and efforts must be made for safe removal. Postoperative patient mental care would be mandatory to prevent recurrences.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest

The authors declare no conflicts of interest.

Approval of the research protocol by an Institutional Reviewer Board

N/A.

Registry and the Registration No. of the study/trial

N/A.

Author agreement

All authors have approved the final version of the manuscript.

Acknowledgments

We would like to thank enago (<https://www.enago.jp>) for the English editing.

Author contributions

Masahiro Arai: Conceptualization, Data curation, Resources, Visualization, Writing—original draft. Hideki Takeshita: Conceptualization, Project administration, Resources, Supervision, Visualization, Writing—original draft, Writing—review & editing. Wataru Hirata: Data curation. Kojiro Tachibana: Data curation. Shoichi Nagamoto: Writing—review & editing. Sachi Kitayama: Writing—review & editing. Akihiro Yano: Writing—review & editing. Yohei Okada: Data curation, Writing—review & editing. Satoru Kawakami: Supervision; writing—review & editing.

References

1. Van Ophoven A, deKernion JB. Clinical management of foreign bodies of the genitourinary sector. *J. Urol.* 2000; 164: 274–87.
2. Miura T, Taniguchi T, Lkeda I, Kondo I. [Case report: a foreign body (cloth chip) in the bladder by trauma]. *Jpn. J. Urol. Surg.* 1996; 9:585–8. (Japanese)
3. Palmer CJ, Houlihan M, Psutka SP, Ellis KA, Vidal P, Hollowell CM. Urethral foreign bodies: clinical presentation and management. *Urology.* 2016; 97: 257–60.
4. Breyer BN, Shindel AW. Recreational urethral sounding is associated with high-risk sexual behavior and sexually transmitted infections. *BJU Int.* 2012; 110: 720–5.
5. Rinard K, Nelius T, Hogan L, Young C, Roberts AE, Armstrong ML. Cross-sectional study examining four types of male penile and urethral “play”. *Urology.* 2010; 76: 1326–33.
6. Kinjo T, Oka T, Imanaka T, Yamanaka Y, Nomura H, Yoshioka I et al. [Vesical perforation caused by a foreign body: a case report –a clinical review of 41 cases in Japan-]. *Hinyokika Kyo.* 2018; 64:169–73. (Japanese)
7. Reztsova M, Chien KS, Post KT, Canales A, Yokota S. Bladder perforation as a rare complication of urethra sounding with a blunt-marking pen. *J. Surg. Case Rep.* 2023; 2023: rjad032.
8. Aljarbou A, Abdo AJ, Almosa MA, Hariri A. The extraction of foreign bodies from the urinary bladder using a nephroscope: a case report of endoscopy treatment. *Urol. Ann.* 2023; 15: 95–7.
9. Nishibori T. Stay cool in Little Edo this summer with free parasols. *Asahi Shimbun* [cited May 4 2023]. Available from: <https://www.asahi.com/ajw/articles/13061436>
10. Unruh BT, Nejad SH, Stern TW, Stern TA. Insertion of foreign bodies (polyembolokoilamania): underpinnings and management strategies. *Prim. Care Companion CNS Disord.* 2012; 14.

Figure legends

Figure 1. (a) Cystoscopic image. A foreign body was stuck into the left bladder wall. It is displayed in grayscale at the patient’s request. (b) A coronal section image of computed tomography (CT). A foreign body penetrates the bladder wall. Soft tissues are colored vermilion and foreign body in blue for easy identification. (c,d) Front and left oblique view of pelvic three-dimensional reconstruction CT, with a foreign body colored blue for easy identification. A foreign body is colored blue for easy identification.

Figure 2. (a) A foreign body. A 9.5-cm long plastic Asian hair stick. It is called *kanzashi* in Japan. (b) Surgical exploration results. The tip of the foreign body remained in the retroperitoneal space while penetrating the bladder wall, (a) and (b) are displayed in grayscale at the patient’s request. (c) A woman wearing a kimono with multiple *kanzashi*. Kisegawa of the Matsubaya. A work by Kitagawa Utamaro (Japanese, early 1750s–1806). Photograph © [date of publication] Museum of Fine Arts, Boston.

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