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Case Report

An Unusual Foreign Body in the Urethra

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Abstract

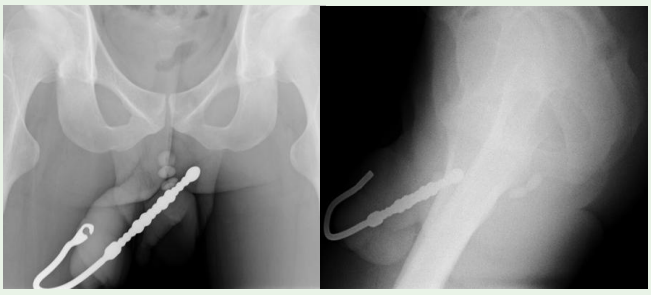
Bladder and urethral foreign bodies are sometimes seen in daily medical practice. We experienced a rare case of the urethral foreign bodies. A 24 years-old man was referred to our hospital due to the insertion of 3 pieces of 12×6mm disc-shaped acrylic beads together with J shaped bougie into the urethra. Bougie was removed easily but beads were stuck in the urethra. We fail to remove the beads with the basket, but we finally able to remove by using hooked-prong grasping forceps through nephroscope for percutaneous nephrolithotomy (PNL). It is critical to chose right surgical tools based on the shape and material of the foreign bodies to attain minimal invasiveness.

Introduction

Bladder and urethral foreign bodies are sometimes seen in daily medical practice. As causes and routes of foreign bodies, transurethral masturbation purpose was the most common. As the type of foreign body, rod-shaped object, such as pens, tooth brush and thermometers are most common [1-4]. Here we experienced a rare case of urethral disc-shaped acrylic beads.

Case Presentation

A 24 years-old man was referred to our hospital due to the insertion of 3 pieces of 12×6mm disc-shaped acrylic beads together with J shaped bougie into the urethra. Bougie was used to push beads into the urethra (Figure 1, 2). In order to maintain the urinary flow, urethral catheter was inserted at previous hospital (Figure 3). Bougie was removed easily together with urethral catheter but beads were stuck in the urethra. CT image showed that one acrylic bead was located in pendulous urethra and two in bulbarurethra (Figure 4). Since we fail to remove the foreign bodies at outpatient using a basket catheter, we underwent urethral foreign body removal surgery under general anesthesia (Figure 5). Although we tried to remove them by Trans Urethral Resection (TUR) loop and foreign-body forceps but their surface was smooth, so it was difficult to grasp them. Next, we tried to fragment the beads by holmium laser, but the laser passed the beads. So beads could not be fractured.



Figures 1&2: Pelvis X-ray showing acrylic beads and bougie.

Figure 3: Photograph of inserted J shaped bougie together with urethralcatheter.

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Figure 4: CT image of two acrylic beads located at bulbar urethra.

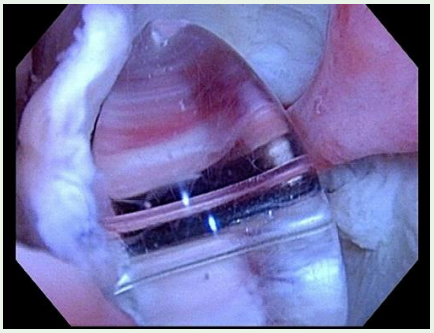

Figure 5: Cystoscope showing one clear acrylic beads in pendulousurethra.

Figure 6: Hooked-prong grasping forceps that were used to remove acryl bead.

During surgery, perfusate could not be drainaged from urethral side, so we underwent cystostomy. Finally beads were removed by hooked-prong grasping forceps using nephroscope for Percutaneous Nephro Lithotomy (PNL) (Figure 6).

Discussion

Although we experienced a rare case of the urethral foreign bodies that were difficult to remove, bladder and urethral foreign bodies have also been reported 1525 cases so far in Japanese literature [1]. However, since there was no literature review of foreign bodies in English, we have summarized 104 cases in English literature by pubmed search within past 10 years [2-4]. As causes and routes of foreign bodies, transurethral masturbation purpose was the most common (Japanese: 46.2% and English: 52.4%), followed by transvesical operation, such as complete hysterectomy, colorectal surgery and cystostomy (Japanese: 19.7% and English: 23.3%). The trends in cause and route of foreign bodies were very similar between Japanese and global patients. Only slight differences were observed in rate of urethral expansion, such as through insertion of catheter and urethral bougie (Japanese: 7.3% and English: 1%) (Table 1).

Table 1: Causes of foreign bodies.

Causes	Case number (Japan)	case number (English Literature:last 10 year)
Transurethral		
Masturbation	705(46.2%)	54(52.4%)
Urethra expansion	112(7.3%)	1(1.0%)
Other	117(7.7%)	4(3.9%)
Sub Total	934(61.2%)	59(57.3%)
Transvesical		
Operation	300(19.7%)	24(23.3%)
Other iatrogenic	31(2.0%)	11(10.7%)
Other	79(5.2%)	8(7.8%)
Sub Total	300(19.7%)	43(41.7%)
Unknown	181(11.9%)	1(1.0%)
Total	1525(100%)	103(100%)

Table 2: Type of foreign bodies.

Foreign bodies	Case (Japan) (%)	Case (Foreign countries) (%)
Pen/Tooth brush	235(15.4)	17(16.5)
thread/Power cord	228(15.0)	19(18.4)
Rubber band	158(10.4)	2(1.9)
Nail/Needle	145(9.5)	10(9.7)
Candle	114(7.5)	1(1.0)
Plastic bag	113(7.4)	1(1.0)
Metal(bracelet,magnet etc)	110(7.2)	17(16.5)
Vegetable(carrot,bamboo etc)	108(7.1)	2(1.9)
gauze,other	314(20.6)	34(33.0)
total	1525(100)	103(100)

As the type of foreign body, rod-shaped object, such as pens, tooth brush and thermometers are most common (Japanese: 15.4% and English: 16.5%), followed by thread and power cord (Japanese: 15.0% and English: 18.4%), rubber band (Japanese:10.4% and English: 1.9%) and nail and needle (Japanese: 9.5% and English: 9.7%). Comparing type of foreign bodies between Japanese and English literature, although distribution of most objects were quite similar, rate of metal, such as bracelet and magnet were more common in English literature (Japanese: 7.2% and English: 16.5%). Removal method of foreign bodies varies by patients including endoscopic (cystoscope, TUR, PNL) removal, abdominal surgery and grip by Pean. Although we tried to fragment foreign bodies by the Holmium YAG laser, it was not possible in this case, but cases actually fragmented the foreign bodies were also found.

Bdeke et al, reported that urethral catheter, ureteral stent, guide wire, woods, steel, graphite and nylon were able to be fragmented by Holmium YAG laser. Only copper was totally resistant to laser [5].

In removing bladder and urethral foreign bodies, it is critical to attain minimal invasiveness to prevent further complication. Although wide varieties of urethral foreign bodies exist, we may successfully and safely remove the objects by choosing right surgical tools based on the shape and material of the foreign bodies.

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