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FOREIGN BODIES IN URINARY BLADDER-A UROLOGICAL CHALLENGE

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ABSTRACT

Background: Urinary tract are rare site for foreign bodies and if found, are commonly located in the urinary bladder. Autoerotic stimulation, sexual curiosity and various invasive procedures are the usual causes for insertion of foreign bodies in genitourinary system (Johnin *et al.*, 1999) Symptoms like urinary tract infection, severe pain and hematuria can be present in some patients (Van Ophoven, 2000) Management of such cases include removal of entire foreign body with minimal trauma to the genitourinary tract (Johnin *et al.*, 1999) Herein, we reviewed our experience regarding foreign bodies in the urinary bladder in our hospital.

Materials And Methods: Medical records of all patients who were diagnosed with a foreign body in the urinary bladder between January 2013 and June 2017 were reviewed. Demographics, causes, type of object found, clinical presentation, treatment and outcomes were noted .

Results: Foreign body in urinary bladder were identified in 15 patients with a mean age of 32.06 years in our study period. Self - inserted objects were mainly ballpoint pen, eyebrow pencil, cotton swabs, etc. Suture material, foleys ballon fragments, piece of ureteric stent ,etc were other few foreign bodies found in urinary bladder. Major route of insertion was from urethra. Incidence was more in female compare to male. Most common presentation were with haematuria associated with frequency, urgency and pelvic pain. Majority of cases could be managed by endoscopic removal with minimal complications. Two cases were treated by open surgery. Patients symptoms gradually improved and no complications were detected during follow-up except in two cases who had urethral stricture.

Conclusion: Foreign bodies are usually introduced in urethra for autoerotic stimulation and can get accidentally slip into urinary bladder. Such cases pose a challenge to the surgeon as they are usually asymptomatic or have minimal discomfort and can be treated with minimal invasive procedure.

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INTRODUCTION

Foreign bodies are commonly seen in urinary bladder in urinary tract. Many objects as foreign body in bladder have been reported such as eyebrow pencil, wrist watch, blu-tack, cable, rubber tube, electrical wire, cocaine, hair, ballpoint pen, or even cucumber (Loeser *et al.*, 2007; Wyatt, 2006; Mukerji *et al.*, 2004; Taori *et al.*, 2007; Rafique, 2002; Yilmaz 2002; Kiriyama, 1976; Stravodimos *et al.*, 2009; Cury *et al.*, 2006). They usually enter the bladder via migration from the urethra either during clitoris or penis masturbation.

The management of such cases are challenging. We report our experience in management of various cases of foreign bodies in urinary bladder.

MATERIALS AND METHODS

The medical records of 15 patients who were treated for foreign bodies in the urinary bladder between January 2013 and June 2017 were reviewed. Demographics, causes, types of object found in the bladder, clinical presentation, treatment and outcomes were reviewed.

RESULTS

In our study, the mean age of the 15 patients who suffered from a foreign body in the urinary bladder was 32.06 years (range, 18–55 years). Incidence of foreign body in bladder was more common in female (60%) than male (40%) in our study. After insertion of foreign body five patients were sent to hospital immediately and five presented within 1 week. Three patients presented within 1 month after insertion of foreign body. Two patients had an unknown duration of a foreign body in the bladder. More than one symptoms related to voiding were present in all, suggesting lower urinary tract abnormalities. Hematuria was the most common symptom seen in 5 patients (33.33%) and 3 patients from this group had gross haematuria (60%).

gauze piece, retained inflated balloon of a Foley catheter, and suture material (Kiriya *et al.*, 1976; de Gier, 2002) Migration of foreign body from adjacent viscera into urinary bladder are extremely rare. In our patient, the cause of self-insertion of cosmetic brush handle was erotic stimulation and the route of insertion was migration from vagina to urethra and then into bladder. Patients are usually asymptomatic but can present with symptoms like frequency, dysuria, microscopic or gross haematuria, lower abdominal pain, urethral discharge, strangury and acute urinary retention (Van Ophoven, 2000; Rafique, 2002) High suspicion for self-insertion of foreign bodies should always be kept in mind if during sexual history or urogenital examination patient becomes anxious (Rafique, 2002). The exact size, location and number of the foreign bodies can be determined by radiological examination (Johnin *et al.*, 1999)

Table 1.

Sr.no	Gender (f-female M-male)	Age (years)	Object	Chief complaint	Cause	Surgery
1	F	25	Eyebrows pencil	Hematuria	Self inserted	Cystoscopy
2	F	18	Cosmetic brush handle	Hematuria	Self inserted	Cystoscopy
3	M	38	Fragments of double- j stent	Frequency	Incomplete removal	Cystoscopy
4	F	27	Pessaries	Dysuria	Self inserted	Cystoscopy
5	F	45	Cotton swab	Dysuria	Hygienic clean-up	Cystoscopy
6	M	50	Foley's ballon fragments	Frequency	Incomplete removal	Cystoscopy
7	M	22	Ureteric catheter tip	Urge incontinence	Incomplete removal	Cystoscopy
8	F	22	Needle	Hematuria	Self inserted	Cystoscopy
9	M	29	Electric wire	Frequency	Self inserted	Cystoscopy
10	F	26	Screw	Hematuria	Self inserted	Cystoscopy
11	F	35	Suture material	Dysuria	Self inserted	Cystoscopy
12	F	31	Intrauterine device	Pelvic pain	Migration from uterus	Open surgery
13	M	27	Fragments of double -j stent	Dysuria	Incomplete removal	Cystoscopy
14	M	55	Knotted feeding tube	Frequency	Intermittent catheterisation	Open surgery
15	F	31	Pencil	Hematuria	Self inserted	Cystoscopy

Frequency of urination and dysuria were present in 4 (26.66%) patients each. One patients had urge incontinence (6.67%), and one had pelvic pain (6.67%). Four out of eight self-inserted foreign bodies came to hospital later, believing that the object might spontaneously pass out. Psychiatric evaluation was normal for all patients. All patients were evaluated with plain x-ray KUB, ultrasound and urethroscopy. Computed tomography (CT) was done in five case in which diagnosis was not confirmed with ultrasound and cystoscopy. Thirteen patients (86.67%) were treated endoscopically and two (13.33%) were treated with open surgery in our study. Cystoscopic removal could be done in 11 cases, and 2 cases were treated by cystolitholapaxy and removal of the foreign body. Open surgery was done in two patients due to the inability to remove the foreign body using endoscopic techniques. Most patients had an uneventful hospital course and was normal during follow up. Two cases presented later with urethral stricture. Demographic and treatment data are listed in the Table 1.

DISCUSSION

Various intravesical foreign bodies has been reported in both sexes in literature such as eyebrow pencil, wrist watch, blu-tack, cable, rubber tube, electrical wire, cocaine, hair, ballpoint pen, or even cucumber. (Loeser *et al.*, 2007; Wyatt, 2006; Mukerji *et al.*, 2004; Taori *et al.*, 2007; Rafique, 2002; Yilmaz 2002; Kiriya, 1976; Stravodimos *et al.*, 2009; Cury *et al.*, 2006) A foreign body can be inserted into bladder from various routes like self-insertion, iatrogenic, migration from adjacent organs, via urethra or traumatic route. Commonly associated psychological disorders are mental illness, sexual curiosity and borderline personality disorder (Rahman *et al.*, 2004). Self-insertion of a foreign body into the urethra is mostly done for erotic or sexual experience, usually for masturbation (Rahman *et al.*, 2004; Gonzalgo, 2003; Sukkarieh *et al.*, 2004). Iatrogenic foreign body can be due to retained urethral catheter tip, tip of ureteric catheter, broken stent, beak of cystoscope, filiform guide, thermometer tip, retained

Radiopaque foreign bodies can easily be confirmed with plain kidney urinary bladder (KUB) radiograph and for radiolucent foreign bodies, ultrasound and computed tomography (CT) plays an important role in diagnosing (Trehan *et al.*, 2007) However, the most accurate method for diagnosis of intravesical foreign bodies is urethroscopy. The main advantage of cystoscopy is that it is both diagnostic and therapeutic. Various methods of removal of foreign body have been described, including meatotomy, cystoscopy, internal or external urethrotomy, suprapubic cystostomy, fogarty catheterization, and injection of solvents (Walmsley, 1987).

The first line of management is usually endoscopy as they minimize the lower urinary tract injuries. Mostly foreign bodies are removed easily by normal cystoscopy but in some difficult cases the unusual equipments such as amplatz dilators or even nephroscopes for can be used (Van Ophoven *et al.*, 2000) The majority of mobile objects inside the bladder can be easily grasped with forceps or retrieval baskets. Lately, YAG laser have also been used for this purpose. (4) In some cases, to reduce the risk of urethral and bladder injury, open procedures like suprapubic cystostomy are still recommended. (1) Foreign body retrieval by endoscopy from the male urethra and bladder may be more challenging due to the longer urethral length and the occasional presence of obstructive BPH in older men compared to female urethra which are shorter in length and wider in diameter. Routine psychiatric evaluation is recommended as there is high incidence of psychiatric disease, dementia and mental retardation in these patients and they prevent further incidence of insertion of foreign bodies in genitourinary tract (Kenney, 1988) Foreign body insertion in genitourinary tract can lead to urogenital fistula and its management depends on size and location of the defect. Fistula can get spontaneously closed if it is small but if healing does not occur within 4 weeks then it is unlikely and should be managed with surgery (Gerber, 1993)

Conclusion

Foreign body of bladder should always be a differential diagnosis in young patients presenting with chronic lower urinary tract symptoms. The presence of a foreign body can be detected by detailed history and clinical examination and can be confirmed by imaging modalities like X-ray pelvis, CT whole abdomen and endoscopy (cystoscopy/vaginoscopy). Majority of cases can be treated successfully with endoscopy technique and some may require open procedures for retrieval.

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