



## Retrospective Analysis of Foreign Bodies in the Lower Urinary Tract: A 5 Years-Single Center Experience

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### Abstract

**Introduction:** Foreign bodies in the urinary tract are among the most common urologic problems due to different etiologies. In this present study, we aimed to review our experience about lower urinary tract foreign bodies.

**Methods:** We analysed 22 patients that underwent surgical treatment for foreign bodies in lower urinary tract. All the patients underwent cystoscopy under general anesthesia for direct visualization of the foreign body within the lower urinary tract and cystoscopic removal of the foreign body is attempted. If cystoscopic removal failed, then open cystostomy was performed to remove it.

**Results:** Mean age of patients were 53,  $5 \pm 19,1$  years old. 17 (77%) patients treated with endoscopically, besides 5(23%) patient treated with open surgery. We revealed that 10 (45,5%) patients have erectile dysfunction and 12 (55,5%) patients have no sexual disorders.

**Conclusions:** Cystoscopic removal is usually successful for removing most of the foreign bodies from the bladder; but when it fails, then suprapubic cystostomy can be the alternative procedure.

**Keywords:** Foreign Body; Bladder; Urethra; Endoscopy

### Introduction

Foreign bodies (FBs) in the urinary tract are among the most common urologic problems due to different etiologies. Although they are usually iatrogenic in the upper urinary tract, FBs in the bladder and/or urethra may be due to iatrogenic, self-insertion, and rarely migration from adjacent organs [1]. Bladder/urethral FBs can be observed in various circumstances such as exotic impulse, mental illness, borderline personality disorders, sexual curiosity, or sexual practice in addition to iatrogenic causes. During sexual activity or self-stimulation, FBs can be pushed forward into bladder via the urethra [2]. Different types of foreign bodies have been removed from the urinary bladder, which include electric wire, safety pin, hairclip, intrauterine contraceptive device (IUCD), gauze pieces, battery, leech, hairballs and so on [3-6].

In our present study, we aimed to review our experience about lower urinary tract FBs. We also looked at the etiology of FBs, methods of treatment and management in different localizations.

### Material and Methods

In this retrospective study, we analysed 22 patients that underwent surgical treatment for FBs in lower urinary tract between 2010 and 2015 in our clinic. All the patients' data were collected from our hospital's patient database. Patients' age, gender, concurrent disease, sexual habits, treatment methods and type of FBs were recorded. Medical history and past operations were recorded. All the patients were referred for psychiatric consultation to evaluate psychiatric disorders. Pre-operative antibiotic prophylaxis (first-generation cephalosporin) was given in all cases. All the patients underwent cystoscopy under general anesthesia for direct visualization of the FBs within the lower urinary tract and cystoscopic removal of the foreign body is attempted. If cystoscopic removal failed, then open cystostomy was performed to remove it.

All the categorical variables were analyzed with descriptive methods. For all statistical analyses, SPSS 22.0 package program was used.

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**Received Date:** 18 Oct 2016

**Accepted Date:** 15 Nov 2016

**Published Date:** 17 Nov 2016

#### Citation:

Horsanali MO, Ozer K, Eser U, Altaş OF, Dindar AS. Retrospective Analysis of Foreign Bodies in the Lower Urinary Tract: A 5 Years-Single Center Experience. *Ann Clin Case Rep.* 2016; 1: 1182.

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**Table 1:** Type of foreign bodies extracted from the lower urinary tract.

Foreign Body	N	%
Catheter tips	5	22,4
Mash migration	4	18,2
Plastic stick	4	18,2
Intra uterine device	2	9,1
Ear cleaning rod	2	9,1
Rosary	1	4,6
Awl	1	4,6
Buckle	1	4,6
Plastic pen	1	4,6
Plastic pipet	1	4,6

## Results and Discussion

Mean age of patients were  $53,5 \pm 19,1$  years old. 15 (68,2%) of the patients were male and 7(31,8%) of were female. 17(77%) patients were treated with endoscopically, besides 5 (23%) patients were treated with open surgery. FBs were localized in the bladder in 16 (72,7%) patients and it were localized into the urethra in 6 (27,3%) patients. Type of FBs that were extracted from the lower urinary tract is summarized in table 1 and etiologic causes of FBs are summarized in table 2. In sexual examination we revealed that 10(45,5%) patients have erectile dysfunction and 12 (55,5%) patients have no sexual disorders. During the surgery, we detected bladder cancer in 1 patient and external meatus stricture in other 1 patient, concurrently.

Foreign bodies in the urinary tract are among the most common urologic problems due to different etiologies and can occur either by self introduction or by migration from adjacent organs [6]. In our present study, migration of FBs from adjacent organs were seen in 6 patients and 16 patients have done self introduction.

Introduction of the foreign bodies can be voluntary and related to a psychiatric disorder or can occur by accidental penetration of objects or iatrogenic trauma due to firearms. X-rays show a radio-opaque foreign body, but they may be unremarkable when the foreign body is radio-transparent. In this situation, an ultrasonogram can objectify bright echogenic foci with distal acoustic shadowing [7]. In addition, cystoscopy is essential to confirm the diagnosis and in the attempt for its removal. In most of the cases, foreign bodies can be removed from the bladder through the cystoscope. Recently, Ho: YAG laser has been used to fragment the large size foreign body inside the bladder and facilitate its removal through the cystoscope with a forceps [8].

Psychiatric disorders have been reported in patients admitted for self introduction of foreign bodies into the bladder as an act of sexual satisfaction [9]. Psychiatric evaluation of all such patients has been recommended [3]. Psychiatric evaluation was done in such patients in our study, only 2 patients were diagnosed with psychiatric disorders such as mental retardation by the consultant psychiatrist, but 10 patients without any psychiatric disorder, made self introduction during sexual activity. And also, we detected erectile dysfunction in these patients who insert foreign bodies into their urethra themselves to provide rigid erection during the sexual activity. We consider that erectile dysfunction is major causes that underlying self insertion of foreign bodies into lower urinary tract. If patient have no psychiatric

**Table 2:** Causes of foreign bodies presence in the lower urinary tract.

Etiology	N	%
Sexual gratification	9	40,9
Migration of mash or IUD	6	27,2
Traumatic withdrawal of urinary catheter	4	18,2
Psychiatric disorder	2	9,1
Self dilatation	1	4,6

disorder and have erectile dysfunction, this problem must be treated after surgery.

The therapeutic approach depends on the patient's condition, the assessment of the lesions, and the size, shape and nature of the intravesical foreign body. The extraction of a foreign body in the bladder can be performed through surgical exploration [10]. We performed endoscopic surgery in 17 patients and open surgery in 5 patients.

Migration of intra uterine device (IUD) is not uncommon; it may penetrate into retrovesical space in the peritoneum, bowel and bladder [11-13]. The most frequent sites of migration are, omentum (26.7%), douglas pouch (21.5%), large bowel (10.4%), myometrium (7.4%), broad ligament (6.7%), free within in the abdomen (5.2%), adhesion to ileal loop serosa (4.4%) or to large bowel serosa (3.7%) and mesentery (3%). Rare sites are represented by appendix, abdominal wall, ovary and bladder [14]. In this study we showed that only 2 patients IUD migrated to bladder and one of them was covered with stone.

Catheters and endoscopic instruments are the most common iatrogenic objects introduced into the bladder by urologists. Catheter tips, parts of catheter balloons, buggies, and beaks of resectoscope sheaths are some things that have been recovered from bladders [15-17]. We removed parts of catheter ballons in 5 patients with FBs in bladder.

## Conclusion

Foreign bodies in the bladder are not uncommon situation. It can occur by self introduction into urinary tract or migration from adjacent organs. Cystoscopic removal is usually successful for removing most of the foreign bodies from the bladder; but when it fails, then suprapubic cystostomy can be the alternative procedure. Erectile dysfunction may be the major causes of self insertion of FBs into the lower urinary tract.

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