



# Bladder Stone Secondary to Retained Foley Catheter Balloon in a Woman

Mustafa Zafer Temiz<sup>1</sup>, Murat Dinçer<sup>2</sup>, Engin Kandirali<sup>2</sup>

<sup>1</sup>Clinic of Urology, Bitlis State Hospital, Bitlis, Turkey

<sup>2</sup>Clinic of Urology, Bağcılar Training and Research Hospital, İstanbul, Turkey

## ABSTRACT

Various foreign bodies have been reported in the literature. Foreign bodies in the urinary bladder may occur through the urethra or migration from the neighboring organs. Here, we report a case of bladder stone formation because of the retained Foley catheter balloon in the urinary bladder. A 45-year-old woman was referred to our clinic with right flank pain by an obstetrics and gynecology clinic. Urinary system ultrasonography revealed a bladder stone with a diameter of 25 mm, and cystolithotripsy was planned. Cystoscopy revealed a bladder stone approximately 3 cm in diameter, and cystolithotripsy was performed. The latex material was detected at the end of lithotripsy, and it was removed via endoscopic foreign body forceps. An examination of the foreign body revealed a retained Foley catheter balloon. Retained catheter fragments can potentiate many complications such as bladder stone, recurrent urinary tract infections, irritative voiding symptoms, bladder tumors, fistula formation, bladder perforation, and periurethral abscess. It has been well documented that catheter fragments frequently serve as nidus for calculus formation. In women, the potential intravesical foreign body must be considered in bladder stone cases because of which an intravesical obstruction is rarely seen. Our case is important in terms of being an example for this knowledge. In conclusion, presence of a foreign body must be considered in female patients with bladder stone. (*JAREM* 2015; 5: 131-3)

**Keywords:** Bladder stone, urethral catheterization, foreign body

## INTRODUCTION

The presence of various foreign bodies in the bladder has been reported in the literature (1). Foreign bodies can enter the bladder through the urethra by migration from other neighboring organs or due to perforation (2). In some cases, the insertion of a foreign body into the urethra by the patient results in the foreign body entering the bladder. This is mostly encountered in patients with psychosexual disorders for sexual stimulation, in mentally retarded individuals, in dementia patients, and in children (3). In this case report, we present the case of a patient with a bladder stone that developed due to the bursting of a Foley catheter balloon in the bladder.

## CASE REPORT

A 45-year-old female patient was referred to our clinic by the obstetrics and gynecology clinic due to a complaint of right flank pain. The patient's anamnesis did not reveal any comorbid disease; however, she had histories of right inguinal hernia and hysterectomy operations. No specific feature was detected in her physical examination. Complete urinalysis revealed 18 leucocytes and 5 erythrocytes and sterile urine culture. There was no pathology in kidney function tests. In the urinary system ultrasonogram (USG) of the patient, while no dilatation or any other pathology was observed in the upper urinary system, a 25-mm stone was found in the bladder lumen.

The patient was scheduled to undergo cystolithotripsy to remove the bladder stone by entering from the urethral meatus with a 21 French (F) cystoscope (Karl Storz GmbH & Co. KG, Tuttlingen, Germany) under spinal anesthesia; cystourethroscopy was applied beforehand. No pathology was observed in the urethral

lumen, and the patient's bladder mucosa and bilateral ureteral orifices were normal. A stone approximately 3 cm in size was found in the bladder lumen. In the belief that it would facilitate the process, the cystoscope was removed and the bladder was entered from the urethral meatus with a 9.5 F ureterorenoscope (Karl Storz GmbH & Co. KG, Tuttlingen, Germany). Then, the stone was broken in the bladder with a pneumatic lithotripter (Vibrolith, Elmed Lithotripsy Systems, Ankara, Turkey). During cystolithotripsy, a foreign body approximately 2 cm in size, which was consistent with white latex material, was observed in the core of the stone. Upon completion of cystolithotripsy, the ureterorenoscope was removed and the bladder was entered again via the 21 F cystoscope. All broken stone fragments were removed through irrigation. Then, the foreign body in the bladder was removed by foreign body forceps (Karl Storz GmbH & Co. KG, Tuttlingen, Germany). It was revealed that the foreign body was a retained Foley catheter balloon (Figure 1, 2). The patient, who was under spinal anesthesia, was questioned regarding her catheter history; it was learned that the catheter, which had been inserted during a hysterectomy 3 years previously, had not been removed in the postoperative period. It was burst with a needle and then removed. After the operation, an 18 F 2-way catheter was applied to the patient.

Because the patient had no problems during postoperative monitoring, the catheter was removed the following day and the patient was discharged from the hospital after oral Monurol sachet (Bilim İlaç Sanayi, Beyoğlu, İstanbul) 1 x 1 therapy was given. In the outpatient clinic control performed a week later, the patient was evaluated to be asymptomatic. Written informed consent was received from the patient for publishing this case report.



## DISCUSSION

In the literature, many materials, such as pencils, batteries, electric wires, hair clips, intrauterine devices, pieces of gloves, and pieces of gauze dressing have been reported as foreign bodies in the bladder (1, 2).

One of the most important causes of the etiology of an intravesical foreign body is psychosexual disorder and accordingly, desire of masturbation. Moreover, mental problems such as mental disorders and dementia, self-catheterization, and iatrogenic causes are also factors in this etiology (4). In addition, it has been reported that foreign bodies can be accidentally placed in the urethra of women during procedures performed for abortion or the prevention of pregnancy (5). Most foreign bodies in the bladders of female patients are intrauterine devices and surgical materials used in previous urogynecological operations (6, 7).



**Figure 1.** In the core of the bladder stone, a retained Foley catheter balloon serving as a nidus for the stone



**Figure 2.** View of the retained Foley catheter balloon from a different perspective

Residues from catheter balloons in the bladder can also lead to intravesical foreign bodies (4). These residues generally occur due to rupture of the catheter balloon, and they can cause many potential complications (8). The best known complication is that the catheter residues act as a nidus for stone formation. Other complications include urinary system infections and voiding symptoms (8). In our case, despite the formation of a stone in the bladder, recurrent urinary system infections and voiding symptoms were not observed. Intravesical catheter balloon residues have been reported to cause more aggressive long-term complications, such as bladder tumor, fistula formation, bladder perforation, and periurethral abscess (8). The interesting aspect of our case is that the retained Foley catheter balloon had not presented any symptoms for 3 years, and it was incidentally detected while examining a bladder stone that developed secondary to it, which presented with right flank pain.

The diagnosis of a foreign body in the bladder is often incidentally established through imaging techniques, including direct urinary system graphy, intravenous urography, USG, and computed tomography (CT), which are performed to evaluate urological complaints of patients. Cystoscopy is performed both for the confirmation of diagnosis and for treatment in suspected cases. The main goal of treatment is to remove the foreign body completely with the least or no harm to the bladder, urethra, and other organs. For this aim, endoscopic approaches are commonly preferred. However, the best technique is decided by considering the condition of the patient, the presence of any urinary system injury, and the size, shape and features of the foreign body. Endoscopic techniques can be performed transurethrally or percutaneously. In the literature, open surgeries are also preferred in cases with large foreign bodies, such as lithified metal wires and aluminum sticks (9). In our case, the foreign body in the bladder was incidentally found during cystolithotripsy.

In female patients with a low possibility of intravesical obstruction, the likelihood of a foreign body in the presence of a bladder stone is a well-known fact in urology practice. Our case is important because it is an example of this assumption.

## CONCLUSION

The presence of a foreign body in the bladder is a rarely encountered urological problem. The possibility of a foreign body in the bladder should be taken into consideration in the presence of bladder stones, particularly in female patients.

**Informed Consent:** Written informed consent was obtained from patient who participated in this case.

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