

## Olgu Sunumu

**Intravesical Bone Fragment: A Rare Cause of Foreign Body in the Bladder****İntravezikal Kemik Parçası: Mesanedeki Yabancı Cismin Nadir Bir Nedeni****Acu B<sup>1</sup>, Erdemir F<sup>2</sup>, Atılğan D<sup>2</sup>, Güneş T<sup>3</sup>, Parlaktaş BS<sup>2</sup>, Gökçe E<sup>1</sup>, Uluocak N<sup>2</sup>**

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**Özet**

Pelvik kırıkların üroloji ile ilişkili yaralanmalardaki insidansının %13.5 ile %16 arasında olduğu bildirilmiştir. Pelvik travmalarda mesane ve üretra sıklıkla yaralanan ürolojik yapılardır. Elli iki yaşında erkek hasta iki aylık suprapubik ağrı, hematüri ve dizüri yakınmaları ile kliniğimize başvurdu. Ayrıntılı tıbbi öyküsünden yaklaşık 7 ay önce pelvik kırık nedeniyle birden fazla ortopedik operasyon geçirdiği anlaşıldı. Radyolojik değerlendirmeler mesane içerisinde kemik parçaları ve kemik uzantısı olduğunu gösterdi. Kemik parçaları açık operasyonla mesaneden alındı. Sonuç olarak özellikle pelvik travma öyküsü ve kronik alt üriner sistem yakınmaları olan hastalarda mesane içinde kemik parçaları olabileceği ayırıcı tanıda göz önünde bulundurulmalıdır.

**Anahtar Kelimeler:** Mesane, travma, pelvik kırık, yabancı cisim, kemik

**Abstract**

Pelvic fractures have been reported to be associated with a 13.5–16% incidence of urological injury. The bladder and urethra are commonly injured urological organs in pelvic trauma. A 52-year-old male patient admitted to our clinic with a two months history of suprapubic pain, haematuria, and disuria. In the detailed past medical history of the patient it was understood that he underwent multiple orthopaedic operations because of pelvic fracture which were performed about seven months ago. Radiologic evaluations showed the presence of bony spicule and bone fragments in the bladder. The bone fragments were removed from the bladder by open operation. As a result, the intravesical bone fragments should be kept in mind in the differential diagnosis of patients especially with pelvic trauma history and chronic lower urinary tract problems.

**Key Words:** Bladder, trauma, pelvic fracture, foreign body, bone

**Introduction**

The incidence of urological tract injury following abdominal and pelvic trauma is approximately 10-15% and blunt trauma following traffic accidents and during sports activities constitutes 90% of the cause (1,2). Injury to the lower urinary tract accompanying pelvic fractures can involve the ureter, the bladder or the urethra. Bladder injury can involve an intraperitoneal rupture, extraperitoneal rupture or combined intraperitoneal and extraperitoneal rupture. Extraperitoneal rupture most commonly occurs when the bladder is lacerated by a sharp, bony spicule (3). Foreign body such as intravesical bony spicule after pelvic trauma is an extremely rare seen entity (3).

There is a very limited number of reports of such type of injury in the literature. So in this report, we presented a case of foreign body in the bladder, the clinical signs, diagnostic methods and management of the situation, as well.

### Case Report

A 52-year-old male patient admitted to our clinic with a two months history of suprapubic pain, haematuria, and disuria. These symptoms had worsened during the last two weeks. His past medical history included a previous hemiarthroplasty for a right femoral neck fracture and multiple orthopaedic operations seven months ago. On physical examination multiple incisional scars on lower extremities were found. Although routine biochemical and hematologic analysis were within normal ranges, urinalysis revealed an urinary infection and microscopic heamaturia.



**Figure 2a.** lower abdominal CT scan shows a bony fragment about 1 cm in the bladder (White arrow)

**Figure 2b.** Note that in the section at the level of pubic bone, the displaced bony fragment originating from the left pubic bone is oriented through the bladder base from the anterolateral side (White arrow).

A cystogram showed no extravasation of contrast from the bladder. Surgery was scheduled to remove the bone fragments. At first, he underwent a cystoscopy, which revealed an apparent a hard calcified mass, that was thought to be either a bone or stone in the anterior part of the bladder. An open surgery to be performed with the orthopaedic surgery team was decided. After standart Pfannenstiel incision was performed Retzius area and perivesical space was explored. The right superior pubic ramus was found to have been penetrated into the anterior bladder wall and was lying within the bladder. The bony spicule was resected (Figure 3) and it was shaved to make a smooth surface; but a tiny smooth prominence was left. The bladder was repaired in two layers with a suprapubic catheter in situ. A postoperative cystogram showed no leak from the bladder. After an uneventful postoperative recovery, the patient was discharged on the postoperative day 5. The patient's complaints progressively improved following the operation.



**Figure 3.** Resected bone fragments

### **Discussion**

Foreign bodies may find their way into the urinary bladder by accident, deliberate introduction through the urethra or migration from the neighboring organs (4). A multitude of foreign bodies have been found in the urinary bladder, such as a needle, bullet, a safety pin, an animal feather, pieces of candle, a thermometer, chewing gum, a gauze pack, a toothbrush, a metal hook, and a scalpel blade etc., as reported in the literature (4). However, an intravesical bone fragment as a foreign body months later after pelvic trauma is extremely rare seen.

The association between trauma of the lower urinary tract and fractures of the pelvis is well described. The bladder and urethra are commonly injured urological organs in pelvic trauma. Various series showed that penetrating injuries account for 14.4–33% and blunt trauma resulted in 67–85.6% of bladder ruptures that arises from external trauma (5,6). As in this case report, urologic trauma secondary to pelvic fractures is more prevalent in male patients than in female patients (21% and 8%,

respectively). Injury to the bladder just like urethra most commonly occurs in association with significant anterior ring disruptions, most commonly pubic ramus fractures.

The majority of patients sustaining a bladder wall injury will present with hematuria, frequency, dysuria, urethritis, cystitis, or recurrent urinary tract infections (6,7). The objects which were placed in the bladder are often become encrusted like a stone. The management of a patient with pelvic fracture and concomitant urologic trauma must be performed with the coordination of orthopedic and urologic surgical teams. Although intraperitoneal bladder rupture requires surgical repair, all other patients are managed conservatively unless there is a suspected bony spicule perforating the bladder. In those rare instances, the bony spicule is removed and the bladder is repaired (7-9). However, isolated urological trauma rarely occurs and may be overlooked while concomitant life-threatening injuries take priority (7,8). Therefore, it is important to consider potential urological injury in the polytrauma patient. Maybe in our patient the intravesical bony fragment was overlooked due to multiple fractures and multiple operations at that time, but the prementioned gradually increasing urinary symptoms led to for this radiological investigations. Consequently it was diagnosed and an appropriate management was done.

As a result we can say that even though it's rare entity intravesical bone fragments should be kept in mind in the differential diagnosis of patients with a history of pelvic trauma and chronic lower urinary tract problems.

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