

The Bullet Treated Endoscopically in the Bladder: Case Report

Endoskopik Olarak Tedavi Edilen Mesanede Mermi Olgusu

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ABSTRACT Gunshot injuries of the bladder are uncommon. Penetrating injuries of the bladder are usually managed by the removal of the bullet and closure of the perforation. A 35-year-old man visited our clinic with acute urinary retention. The patient reported a gunshot injury previously with a small caliber bullet which could not be found and therefore be removed. A bullet was detected in the bladder radiologically and removed endoscopically. Various foreign bodies can exhibit bladder erosion in a similar manner. Although the data is scanty, retained bullets adjacent to the bladder have a risk of late migration and urinary retention. Adjacent foreign bodies to the bladder may migrate and cause lower urinary tract symptoms and retained bullets can be a rare cause of acute urinary retention.

Key Words: Wounds, gunshot; lower urinary tract symptoms

ÖZET Mesanenin ateşli silah yaralanmaları nadir görülmektedir. Mesanenin penetran yaralanmaları merminin çıkarılması ve perforasyonun onarılmasıyla tedavi edilmektedir. 35 yaşında erkek hasta kliniğimize akut idrar retansiyonu ile başvurdu. Hastanın öyküsünde daha önceden geçirilmiş ve 1 adet merminin bulunamadığı küçük kalibreli ateşli silah yaralanması mevcuttu. Radyolojik incelemede mesanede bir adet mermi tespit edildi ve endoskopik olarak çıkarıldı. Değişik yabancı cisimlerin travması kendilerini mesane erozyonu ile gösterebilirler. Literatürde yeterli veri olmasına rağmen mesaneye yakın ve çıkarılmamış mermilerin geç migrasyonla üriner retansiyona sebep olabileceği riskleri vardır. Mesaneye komşu yabancı cisimler yer değiştirerek alt üriner sistem semptomlarına, örneğin akut idrar retansiyona nadir de olsa sebep olabilirler.

Anahtar Kelimeler: Yaralar, ateşli silah; alt üriner sistem semptomları

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Gunshot injuries of the bladder are uncommon. Penetrating injuries of the bladder are usually documented by means of a cystogram. Bullets which don't exit the body have risk for migration in the future. We report a man with acute urinary retention due to the possible migration of a bullet into the bladder.

CASE REPORT

We present a 35-year-old man admitted to our hospital with acute urinary retention. The bladder was emptied by an urethral catheter. After removing the urethral catheter the patient voided normally. The medical history of the pa-

tient revealed a gunshot injury of the pelvis and a surgical exploration in an outer center 6 months before the presentation of the patient to our clinic. On physical examination we observed three entrance holes on the left part of the pelvis and a lower abdominal incision scar due to the surgical exploration. There weren't any exiting wounds for the three bullets. According to the patients verbal information, one of the bullets could not found at open surgery. Two months following the gunshot injury the patient developed lower urinary tract symptoms, such as urinary frequency, urgency, voiding difficulty, small caliber of urinary stream, lower abdominal pain and urinary intermittency. At the presentation time plain film, blood urea nitrogen and serum creatinine levels were 18,2 and 1,09 mg/dL, respectively. An X-ray revealed the bullet in pelvis (Figure 1). After a cystogram reported no extravasation, we performed a cystoscopy. Cystoscopy revealed a normal urethra, and a 9 mm bullet (equivalent too 27 French) inside the bladder. The urinary bladder mucosa was normal with no obvious portal of entry of the bullet into the bladder. Following urethral dilatation bullet has removed with stone basket endoscopically (Figure 2, 3). Postoperative period was uneventful. His urinary output was quite normal and had no defaecatory problems. We removed the urethral catheter after 24 hours and discharged the patient.

DISCUSSION

The velocity of a rifle or hand-gun bullet is the main determinant of the severity of this type of in-



FIGURE 1: A plain film showed a small-caliber bullet in the patient's pelvis.

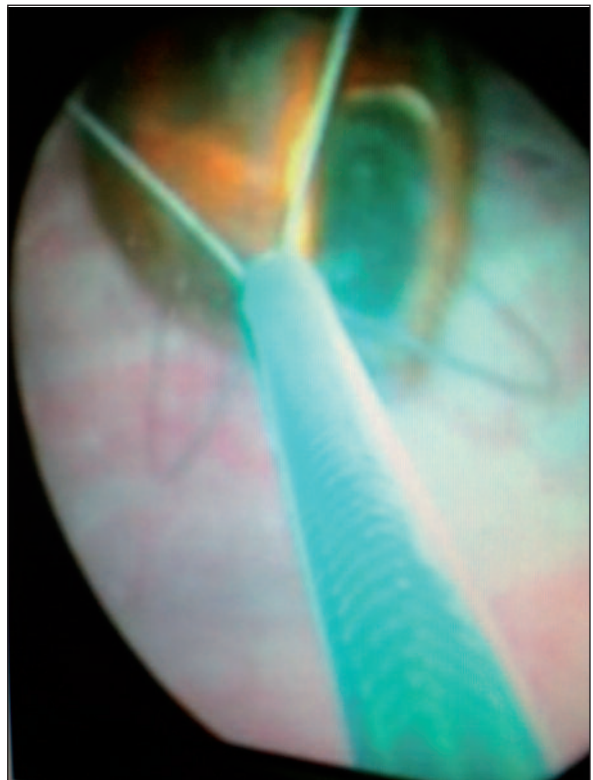
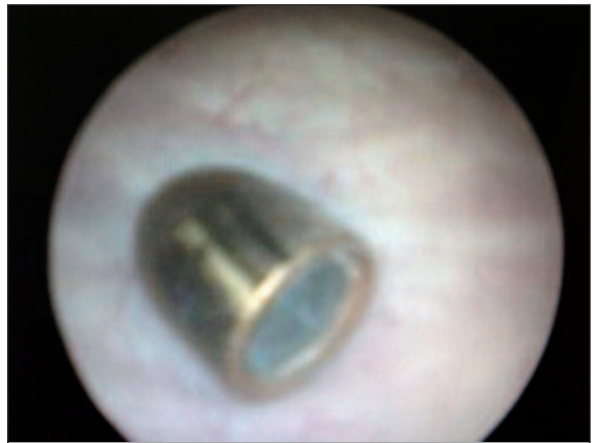


FIGURE 2: The 9mm caliber revealed with cystoscopy and removed with stone basket.

(See for colored form <http://uroloji.turkiyeklinikleri.com/>)

jury. As there was no exit wound, we knew that the entrance velocity was low, therefore tissue damage would probably be small. There are two possible explanations for a bullet in the bladder for this patient. The first is migration of the bullet in the perivesical fat tissue through the bladder. The second is penetration of the bullet to the bladder without any significant urinary extravasation. Due to the inadequate medical and follow up data for

this patient it is not possible to know which proposed explanation is valid. However the late onset of symptoms and acute urinary retention 6 months after the gunshot injury is in favour of late migration of the bullet. Raz et al. demonstrated a similar case with acute retention 20 months after the gunshot injury.¹ The patient presented to their clinic with acute urinary retention and the interval period was asymptomatic. They demonstrated two bullets in the computerised tomography adjacent to the bladder on the day of trauma and removed the bullet endoscopically by a grasper. There are other cases with a late bullet migration to the urinary system through the renal pelvis and the urethra.^{2,3} Other foreign bodies can exhibit bladder erosion in a similar manner.⁴ Although the data is

scant, retained bullets adjacent to the bladder have a risk of late migration and urinary retention.

CONCLUSION

Although the gunshot trauma of the bladder reveals clinically in the acute phase, unremoved adjacent bullets may invade and migrate to the bladder in a period of time. Bullets penetrated the bladder wall and were retained in the bladder lumen is manifested immediately with hematuria and severe voiding symptoms, and the bullets were either passed spontaneously in the urine. Also patient with the lower urinary tract symptoms and history of gunshot injuries must be diagnosed carefully for the late migration of bullets to the bladder.

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