

## Clinical Communications: Adults

### UNDETECTED PENETRATING BLADDER INJURIES PRESENTING AS A SPONTANEOUSLY EXPULSED BULLET DURING VOIDING: A RARE ENTITY AND REVIEW OF THE LITERATURE

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□ **Abstract—Background:** Patients presenting with a penetrating missile lodged in the pelvis are at risk for having a urinary tract injury. Once in the bladder, the missile can become impacted in the urethra, causing retention that requires extraction. Rarely, the missile can be expelled spontaneously through the urethra. **Objectives:** To describe the world literature regarding undetected penetrating bladder injuries presenting as spontaneously voided bullets and to contribute an additional case to the literature. **Case Report:** We present a case report of a 37-year-old man who sustained a gunshot wound to the right buttock, with an undetected urinary system injury and subsequent spontaneous voiding of a bullet. **Conclusion:** There have been <10 cases reported in the literature of spontaneously expelled bullets from the urethra, all of which were undetected injuries on initial presentation. Physicians should be aware of the potential for undetected urinary tract injuries in patients with penetrating missiles to the pelvis and understand the appropriate evaluation and management strategies for these injuries. © 2013 Elsevier Inc.

□ **Keywords—**genitourinary trauma; penetrating bladder injury

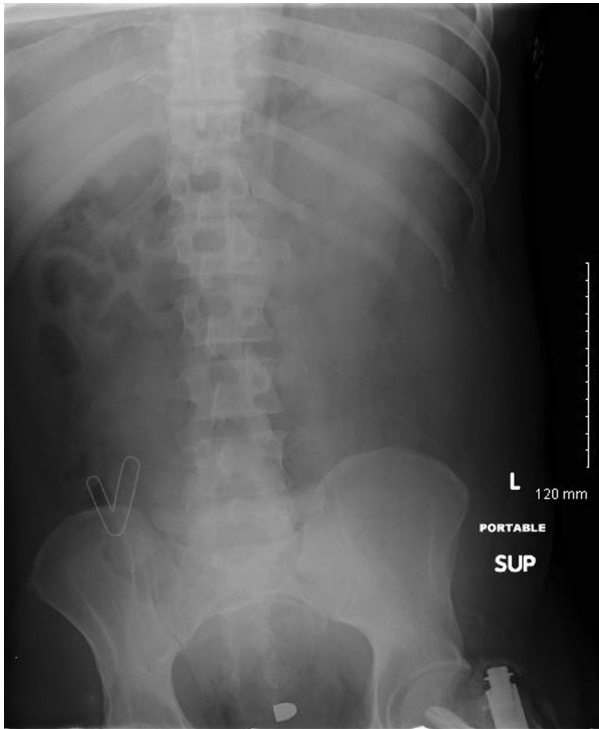
#### INTRODUCTION

Spontaneous voiding of a bullet through the urethra following a penetrating missile injury is extremely rare. There have been <10 cases reported in the literature of

spontaneously expelled bullets from the urethra, all of which were undetected injuries on initial presentation. We present a case report of a man who sustained a gunshot wound to the right buttock, with an undetected urinary system injury and subsequent spontaneous voiding of a bullet.

#### CASE REPORT

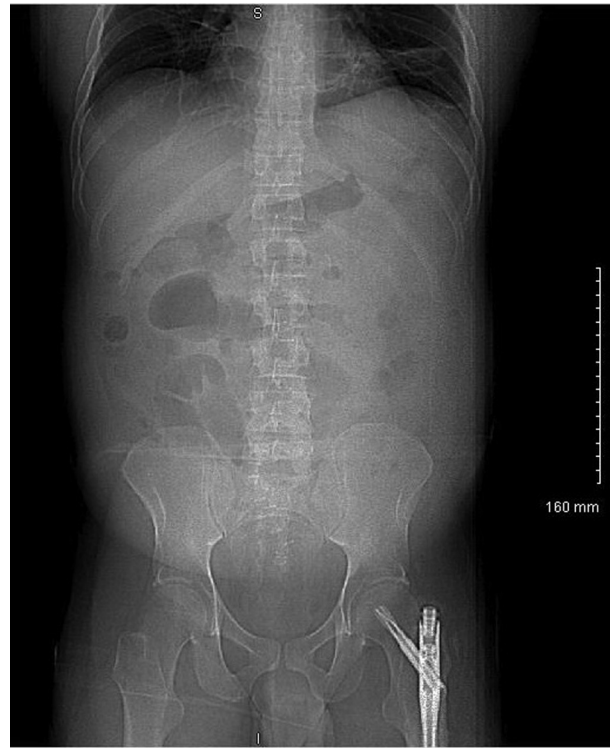
A 37-year-old man sustained a gunshot wound to the right buttock and was brought to the emergency department. He had a history of a previous gunshot wound to the abdomen 7 years before this presentation, at which time he underwent an exploratory laparotomy with small bowel resection and anastomosis as well as internal fixation of his left femur. On initial evaluation, the patient was hemodynamically normal. The digital rectal examination did not reveal gross blood. A plain abdominal radiograph was obtained, which demonstrated a bullet in the center of the pelvis and a sacral fracture (Figure 1). A review of radiographs from the patient's previous hospitalization did not show any retained foreign objects. The physical examination was significant for peritonitis, and the patient was taken emergently to the operating room. A Foley urinary catheter was placed preoperatively and showed no hematuria.



**Figure 1. Abdominal radiograph on arrival in emergency department.**

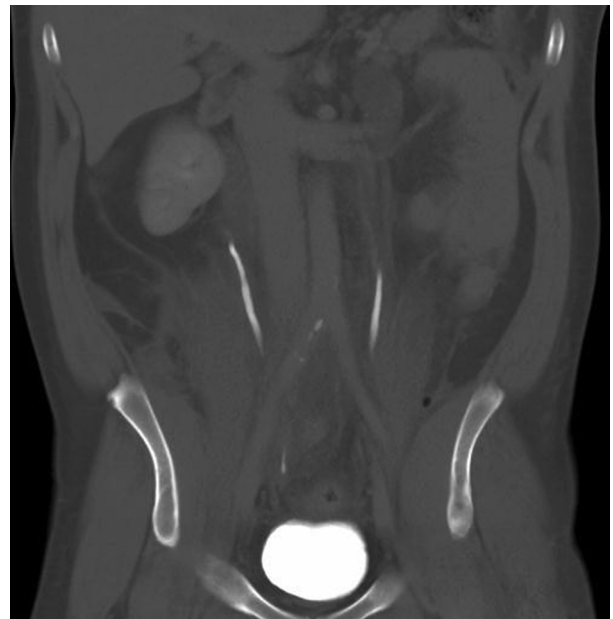
Entry into the peritoneum revealed a small amount of ascites in the pelvis. During the course of the exploratory laparotomy, a right-sided retroperitoneal hematoma was noted in the pelvis. The hematoma was explored, and no injury to the iliac vessels or ureter was identified. There were two injuries to the anterior and posterior surfaces of the distal sigmoid colon and a hematoma in the sigmoid mesentery. The mesenteric injury was explored, and both colonic injuries were primarily repaired. The trajectory of the missile was followed toward the anterior abdominal wall, and no additional injuries were found. The bladder was thought to be uninjured because no hematuria was noted throughout the duration of the procedure. The missile was not recovered. The sacral fracture was treated nonoperatively.

On the morning of postoperative day (POD) 1, the patient's Foley catheter was removed. Approximately 7 h later, he was straining to void and then micturated a 9-mm, smooth-bore, full-metal-jacketed bullet. Initially, the patient's urine showed mild hematuria, which resolved on the next urine collection. He continued to void without difficulty or hematuria. Because of concern about an undetected urinary tract injury, a Foley catheter was replaced and a computed tomography (CT) urogram was obtained. The initial scout image did not show the previously observed bullet (Figure 2). There was no intraperitoneal or extraperitoneal extravasation of contrast



**Figure 2. Scout film from the computed tomographic urogram.**

from the bladder. The ureters were also uninjured (Figure 3). On POD 4, the Foley catheter was removed, and the patient was discharged home on POD 6.



**Figure 3. Computed tomographic urogram of the ureters.**

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