

Hematuria Due to an Intrapelvicly Intruding Total Hip Replacement

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A 92 year old male patient was referred to our service because of gross hematuria. He had a history of numerous episodes of hematuria in the last year. A cystoscopy was performed as first measure. The bladder neck, the trigone and the ureteral orifices were normal. Inspection of the mucosa revealed a localized bleeding area three centimeter in diameter within the posterior wall of the bladder. This area was bulged by an extravesical solid tumor of unknown etiology. Local pressure had caused central necrosis, but no fistula could be observed.

Plain radiographs of the pelvis were performed revealing severe osteolytic destruction of the right acetabulum, a proximal fracture of the right superior pubic ramus and central transpelvic dislocation of the prosthetic stem of a total hip replacement with the femoral head supporting at the contralateral sacroiliac joint (Figure 1). A computed tomography was performed demonstrating extravesical compression due to the dislocated prosthetic stem (Figure 3). Medical records revealed that the patient underwent total hip arthroplasty 22 years ago. Failure of the implant was reported but revision surgery was not performed. Revision surgery including removal of the intrapelvic prosthesis was initiated to avoid bladder rupture. Extraction of the stem was performed successfully, the patient recovered well and no further events of hematuria were recorded.



Figure 1. Plain radiograph of the pelvis with the transpelvically dislocated prosthetic stem (anterior-posterior view)

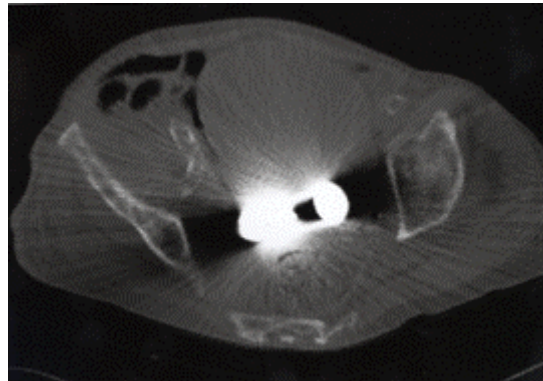


Figure 2. Computed tomography scans of the pelvis revealing the close proximity between the intrapelvically intruded prosthetic stem and the bladder (axial view)

DISCUSSION

Hematuria is relatively common. Unless there is a known cause for hematuria, it must be thoroughly evaluated. Hematuria after routine hip surgery is very uncommon. Migration of a pin through the head of the femur into the adventitia of the left ureter¹ and a penetrating bladder injury caused by a medially placed acetabular screw² were reported. Other uncommon reasons include vesico-cutaneous fistula,^{3, 4, 5}

vesico-acetabular fistula,^{5,6,7} trans-trochanteric vesico-cutaneous fistula⁸ and fistula between the ureter and the acetabular space.⁹ Hematuria may also be due to either to the exothermic reaction involved in polymerization of the methylmethacrylate or the mass effect of the extruded intrapelvic cement or both.^{10,11,12,13}

Review of the literature disclosed no report of hematuria due to pressure of a dislocated prosthetic stem of a total hip replacement on the bladder. This mechanism must be considered when hematuria is detected in a patient with a medical history of total hip arthroplasty. We propose that a plain radiograph of the pelvis should be performed to exclude a lesion of the urinary tract by a dislocated arthroplasty.

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