Acta Orthop Scand 1989;60(2):218–219

A case of methylmethacrylate bladder stone

Philip J. Radford and David J. Thomson

A case is presented of bone cement penetrating the urinary bladder during hip replacement, and later simulating calculus with recurrent urinary tract infections.

Case report

A 71-year-old man presented to the urology department in 1987 with 3 months of recurrent urinary tract infections that could not be controlled by continuous antibiotic therapy. Between infections, he had no other urologic symptoms, and the prostate gland was normal. A radiograph of his pelvis showed curvilinear calcification thought to be due to bladder stone (Figure 1).

In 1974, he had had a left McKee-Arden total hip replacement for severe coxarthrosis. This was complicated by a superficial wound infection immediately postoperatively, and by early loosening of the acetabular component, which required revision 6 months later. At the time of this revision, although no clinical evidence of infection could be found in the hip, bacteriologic swabs grew a sparse growth of *Staphylococcus aureus*, and he was given a 3-month course of antibiotics. However, he still developed a discharging sinus from the wound during the postoperative period, although there was no radiographic evidence of bony infection or of loosening. In 1977, he had an uncomplicated Watson-Farrar total hip replacement of his right hip, but after this, he developed increasing symptoms and discharge from his chronically infected left prosthesis, such that 3 months later, he required revision to an excision arthroplasty. Since then, he developed further intermittent infections in the left hip wound, with discharging sinuses, and the wound was reexplored in 1980, 1983, and 1984 with other episodes being treated with antibiotics in between. Since 1984, he has only had one episode of infection, which settled with antibiotics.

In view of his urologic problems, he underwent cystoscopy in 1987, and at operation he was found to have two large bladder stones, which could not be crushed with any of the lithotrites. An open cystotomy was performed, and the "stones" were found to be pieces of methylmethacrylate bone cement (Figure 1), one of which was free within the bladder and one of which protruded through the left bladder wall from the inner aspect of the left acetabulum. After removal of these, the patient made an uneventful recovery with no further urinary infections so far.

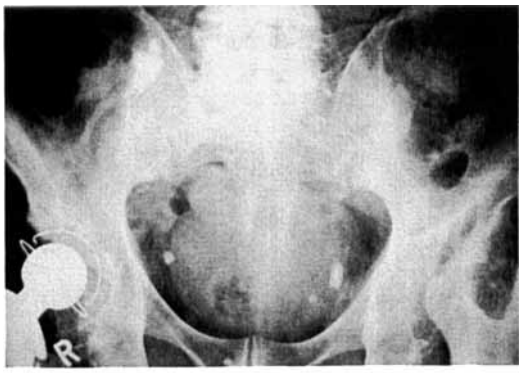
Discussion

We have been unable to find a previous report of orthopedic cement entering the bladder and simulating bladder calculus. Bladder injury with vesico-acetabular fistula has been reported on two occasions, but cement was not found within the bladder itself (Lowell et al. 1975, Roberts and London 1987).

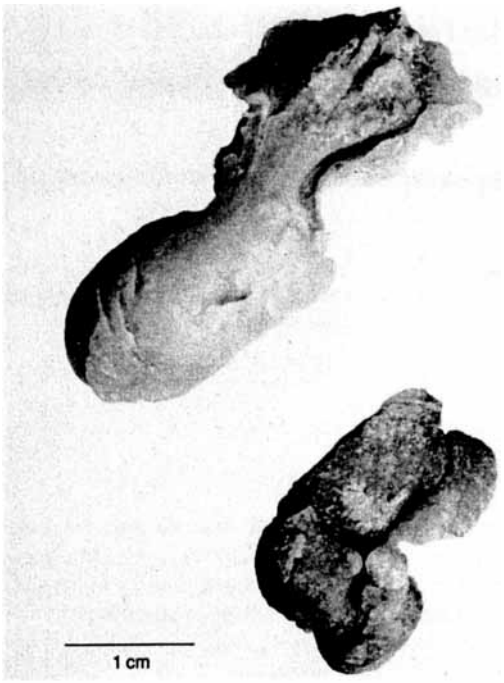
We assume that cement was extruded through a medial acetabular defect at either the primary or revisional surgery and penetrated the bladder wall. It is tempting to assume that this complication underlay the patient's long-term septic hip complications, although sinograms of both his infected hip prosthesis and pseudarthrosis did not show any communication with the bladder. Furthermore, the only organism ever isolated from his hip was *Staphylococcus aureus*, whereas the more recent urinary infections were with coliform organisms.

Department of Surgery, Addenbrooke's Hospital, Hills Road, Cambridge CB2 2QQ, England

Correspondence: Mr. Philip J. Radford, Department of Orthopaedics, University Hospital, Queen's Medical Centre, Nottingham, NG7 2UH, England



A



B

Figure 1. A 71-year-old man after bilateral hip surgery.
A. Curvilinear calcification within the bladder suggestive of stone.
B. Two pieces of cement removed at cystotomy. The piece nearer the scale was free within the bladder.

References

Lowell J D, Davies J A, Bennett A H. Bladder fistula following total hip replacement using self curing acrylic. Clin Orthop 1975;(111):131–3.

Roberts J A, Loudon J R. Vesico acetabular fistula. J Bone Joint Surg (Br) 1987;69(1):150–1.