An Unusual Cause of Extra-Vesical Radiopaque Lesion

Introduction

An 80-year-old man with a previous history of recurrent urinary tract infections presented with intermittent, painful and whole stream gross haematuria for 2 months. Physical examination was unrevealing. The result of urine cytology was negative for malignancy. Intravenous pyelography (IVP) revealed left hydronephrosis with obstruction at left ureterovesical junction, radiolucent filling defect within the bladder and an extra-vesical radiopaque lesion (Fig. 1). The finding of cystoscopy was a large, sessile, papillary lesion over the left lateral wall of the bladder.

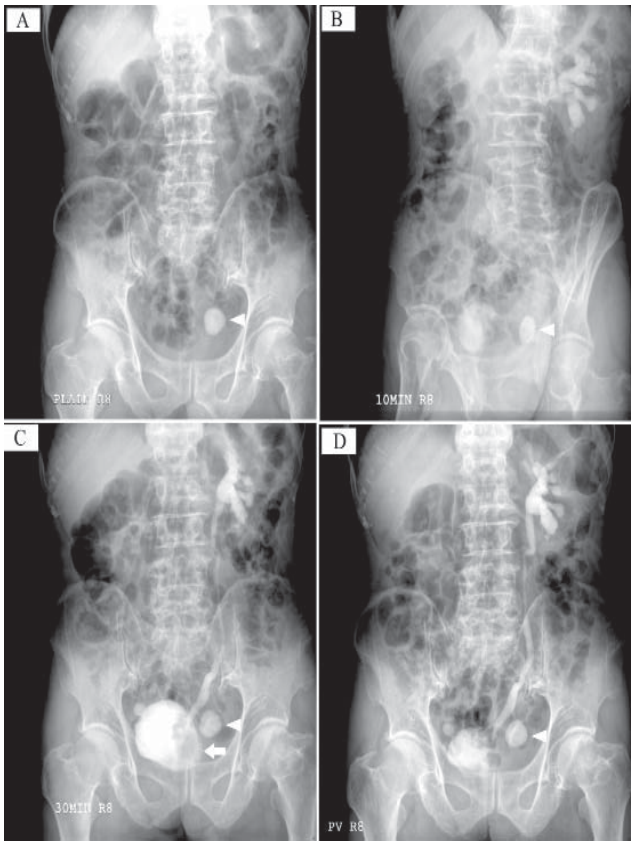

Fig. 1. Intravenous pyelography demonstrating radiolucent filling defects projecting into the bladder (arrow) and an extra-vesical calcification (arrowhead). A: Plain film of the abdomen. B: Ten minutes after administration of intravenous contrast medium, oblique view. C: Film of 30 minutes. D: Postvoiding film.

What is the diagnosis of the extra-vesical radiopaque lesion?

A. Phlebolith

B. Fecal material

C. Bladder diverticular stone

D. Ureter diverticular stone

E. Artifact

Discussion

Computed tomography was performed, which demonstrated a polypoid mass involved at the neck of diverticulum and an intra-diverticular stone (Fig. 2). Bone scan was negative for systemic bony metastasis. Transurethral resection of the bladder tumour was performed for pathology proof which demonstrated a high-grade infiltrating urothelial carcinoma with muscle wall invasion. The patient received a final radical cystoprostatectomy (Fig. 3) and incontinent ureteroileal urinary diversion. His recovery was uneventful. The final pathology showed a high-grade transitional cell carcinoma with invasion of peri-vesical fat (Fig. 4). Absence of local recurrence and distant metastasis were noted at 2 years follow-up.

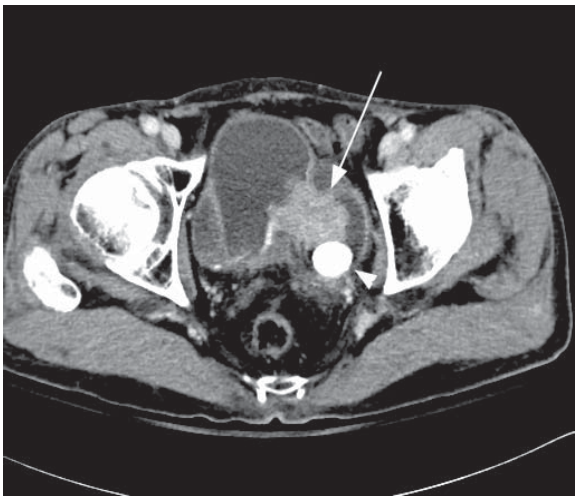

Fig. 2. Contrast-enhanced computed tomography demonstrating an enhanced mass involving the vesical diverticulum (arrow) with total occlusion of the diverticular neck. A radiopaque lesion is found in the interior of the diverticulum (arrow head).

Answer: C

Carcinoma or stone can occasionally be found in vesical diverticulum.[1,2] However, transitional cell carcinoma and stone are rarely found simultaneously in the vesical diverticulum. IVP remains one of the most common imaging tests for the evaluation of haematuria.[3] An IVP can document simultaneously urolithiasis and anatomy of upper urinary tract. Extra-vesical calcification on IVP may be assumed not to be an urinary tract calculus. In this case, computed tomography confirmed an extra-vesical calcification on IVP as an intra-diverticular stone. Additional investigations are warranted on patients whose IVP demonstrates extra-vesical calcifications and bladder filling defects.

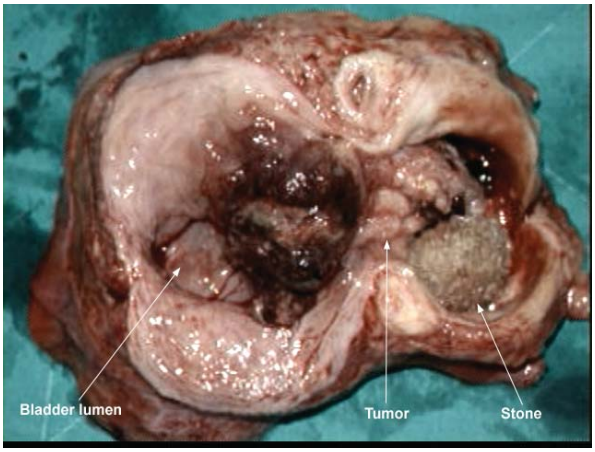

Fig. 3. Gross specimen revealing a tumour totally occupying the neck of the vesical diverticulum and an intra-diverticular stone.

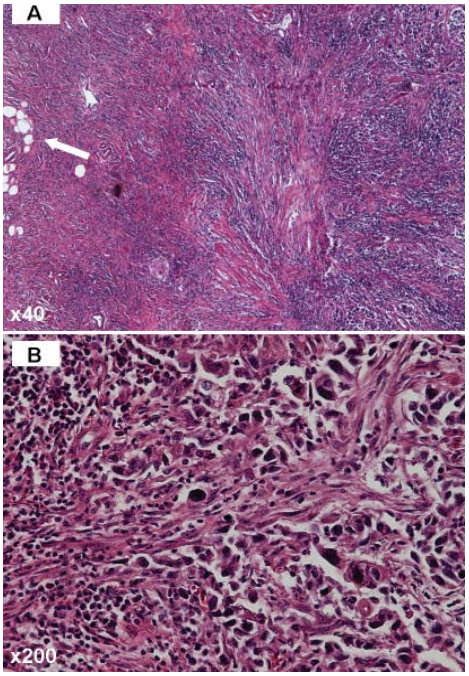

Fig. 4. Panel A showing the infiltrating tumour cells with invasion of peri-vesical fat (white arrow). Panel B revealing the high-grade urothelial carcinoma with disorganised architecture, severe cytologic atypia and frequent mitosis. (Haematoxylin eosin stain).

REFERENCES

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