Urinary bladder mass with emphysematous cystitis: double whammy

Kalpesh Mahesh Parmar,[✉] Gopal Sharma,[✉] Tushit Rai

Urology, Post Graduate Institute of Medical Education and Research, Chandigarh, India

Correspondence to
Dr Kalpesh Mahesh Parmar,
kalpesh010385@gmail.com

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DESCRIPTION

A 46-year-old male patient presented with high-grade fever with chills of 3 days duration. Patient had severe dysuria and bothersome lower urinary tract symptoms like frequency, urgency and intermittency for the past 4 months. On further evaluation, patient had single episode of frank haematuria 1 year ago for which he did not take any advice. Patient consulted a general physician and was prescribed a course of oral antibiotics and antipyretics. He responded partially to medications and was referred to our institute. On examination, his resting pulse rate 112/min and temperature 39.8°C. The rest of the physical examination was unremarkable. Systemic examination revealed a tense palpable mass present in the lower abdomen. The overlying skin and the rest of the systemic examination was normal. On digital rectal examination, prostate was grade 2, appeared benign and no supraprostatic mass was palpable. On evaluation, haemoglobin was 9.6 g/L, total leucocyte count was 16.2×10^9 /L, liver and renal function tests were normal. Urinalysis showed 30–40 pus cells and culture

Patient's perspective

I am very thankful to my team of doctors for managing my case so well.

Learning points

- ▶ Urinary bladder mass with emphysematous cystitis is extremely rare.
- ▶ Large bladder mass compressing the wall leads to necrosis and superimposed infection.
- ▶ Careful assessment and optimisation with broad-spectrum antibiotics is essential prior to transurethral resection of bladder tumour to prevent sepsis.

Figure 1 Contrast-enhanced CT images (axial images) (A–D) showing large urinary bladder mass occupying the whole of urinary bladder (white solid arrow) and emphysematous cystitis (black solid arrow) and contrast filling the urinary bladder (solid orange arrow).

Figure 2 Histopathology of the transurethral resected bladder tumour chips (A) showing a tumour arranged in papillary configuration (H&E stain, ×4), and (B) detrusor muscle is involved by tumour.

grew *Escherichia coli* for which sensitivity-based intravenous antibiotics was started. Ultrasound abdomen revealed solid appearing urinary bladder mass 5×8 cm occupying the whole of the bladder with the presence of air specs. Bilateral kidneys were normal. CT urography revealed a bladder mass measuring $10 \times 6 \times 4$ cm in size, and filling most of bladder lumen with intramural streak of gas was seen along the posterior wall of bladder (figures 1A–D; black solid arrow showing streak of gas and white solid arrow showing urinary bladder mass). Per urethral catheter, 16 French was placed in view of severe distress and gush of air, and frank pus was drained initially. Mild haematuria was present which got cleared later. After recovery, the patient underwent transurethral biopsy of the urinary bladder mass. Histopathology (H&E stain) showed the presence of tumour arranged in nodules and cancer cells arranged in sheets, trabecular and fused papillae. There was increased mitosis, and tumour was seen infiltrating in between the muscularis propria (figure 2A,B). The patient is currently started on neoadjuvant chemotherapy.

Emphysematous cystitis is a rare entity seen mostly in diabetic and immunocompromised patients.^{1,2} CT is gold standard with high sensitivity and specificity to detect gas in bladder wall and clinch the diagnosis.¹ This case is peculiar as emphysematous cystitis in a patient with urinary bladder mass has not been reported as of this writing. Urinary bladder mass filling the whole of bladder compresses the bladder wall, leading to necrosis, and the superimposed infection seems to be the plausible cause for emphysematous cystitis.

Contributors TR and GS wrote the initial draft and collected data. GS edited the images. KMP did critical analysis.

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REFERENCES

- 1 Thomas AA, Lane BR, Thomas AZ, *et al.* Emphysematous cystitis: a review of 135 cases. *BJU Int* 2007;100:17–20.
- 2 Kumar A, Turney JH, Brownjohn AM, *et al.* Unusual bacterial infections of the urinary tract in diabetic patients--rare but frequently lethal. *Nephrol Dial Transplant* 2001;16:1062–5.

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