

# Multifocal Carcinoma of the Urinary Bladder: A Classic Case Image

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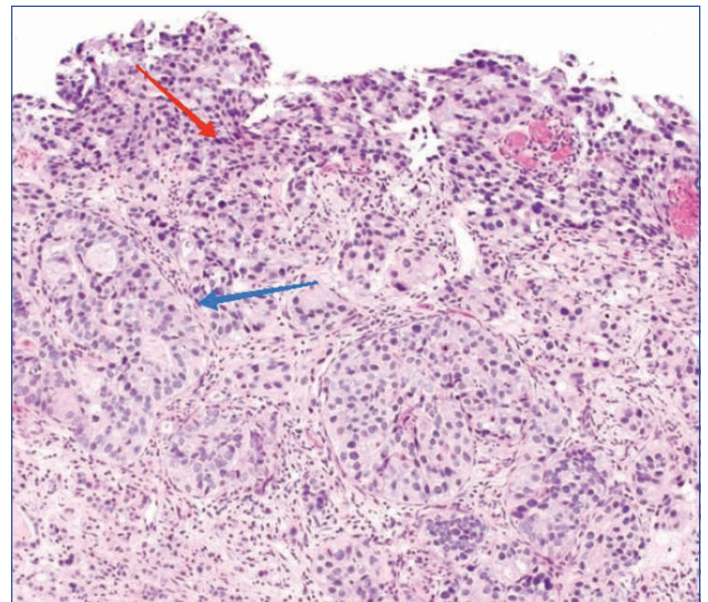


**Keywords:** Computed tomography, Haematuria, Urography

A 55-year-old male patient came with complaint of painless haematuria for a duration of two months, and pain during micturition since two months. He was a chronic smoker for 20 years. The patient had no past history of tuberculosis. There was no history of fever. The patient did not receive any prior treatment. He was not on any medication for his present complaints. The patient was then advised Computed Tomography (CT) urography for further evaluation. There were multiple, well-defined endophytic lesions seen arising from the urinary bladder wall. These lesions were irregular in shape with papillary configuration [Table/Fig-1].

The CT urography features include, multiple well-defined, irregular papillary endophytic lesions arising from urinary bladder wall. Few areas of calcifications were noted within the lesions [Table/Fig-2]. On postcontrast study, the lesions showed moderate heterogeneous enhancement [Table/Fig-3]. Contrast was seen filling the interstices between papillary projections [Table/Fig-4]. All these features, point towards the malignancy involving the urinary bladder. Biopsy of one of the lesions was done which showed small hyperchromatic, pleomorphic transitional cells with poor differentiation invading the smooth muscle of the bladder wall. These findings confirmed the lesions as the transitional cell carcinoma of urinary bladder [Table/Fig-5]. Radical cystectomy was performed, followed by six cycles of chemotherapy.

Bladder Cancer (BCA) is the 9<sup>th</sup> most common cancer, accounting for 3.9% of all cancer cases [1]. Males are three to four times more



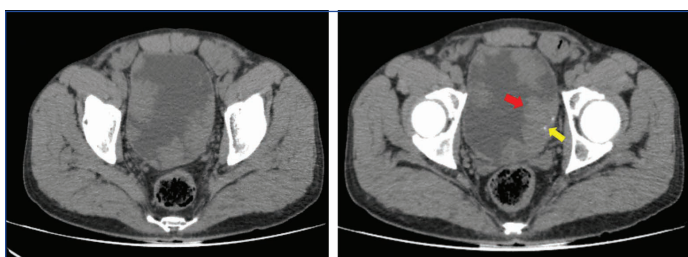
**[Table/Fig-5]:** Histopathological examination showing, small hyperchromatic, pleomorphic transitional cells (red arrow) with poor differentiation, invading the smooth muscle of the bladder wall (blue arrow) (H&E) (40X).

likely to develop urinary bladder cancer. Patients with urinary bladder cancer most frequently present with haematuria (90% of patients) that is typically painless [2]. Haematuria is the most common presentation. Dysuria, frequency of urination, nocturia, abdominal pain in advanced cases are few other symptoms [3]. The significant risk factors, for bladder cancer include smoking, arsenic exposure, chronic renal and bladder calculi, chronic urinary tract infections, schistosomiasis and family history of bladder cancer [3].

The CT urography has a sensitivity and specificity of greater than 90%, in patients with painless haematuria for the detection of urinary bladder cancer [4]. Multicentric urinary bladder cancers develop in 30-40% of cases and are more usually encountered in the presence of numerous endophytic lesions in the urinary bladder [5,6].

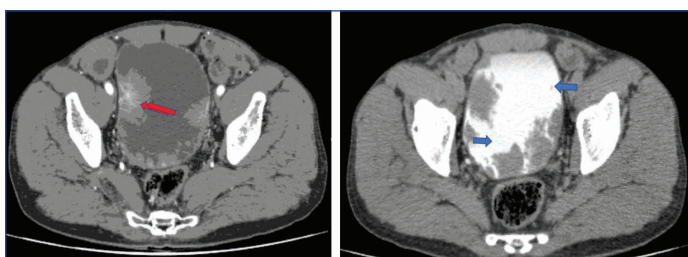
The other differential diagnosis is lymphoma or cystitis. Although primary urinary bladder lymphoma is uncommon, due to the absence of lymphoid tissue in urinary bladder, secondary bladder involvement may occur in upto 25% of people with lymphoma and leukaemia [7]. It is more common in adult women with vague urinary symptoms, haematuria, or a tumour. Lymphomas are well-defined bladder masses on imaging, rather than diffuse infiltration [7]. The tumours could be mistaken for urothelial cancer.

Therefore, radiological imaging has an important role in the diagnosis of the malignancies involving the urinary bladder and directing appropriate management [8]. CT urography is an important tool in diagnosing the multifocal carcinoma of the urinary bladder with sensitivity and specificity of over 90%. It helps in appropriate management of the malignancy involving urinary bladder.



**[Table/Fig-1]:** Axial non contrast CT of the urinary bladder shows multiple well-defined endophytic lesions arising from the urinary bladder wall.

**[Table/Fig-2]:** Axial non contrast CT of the urinary bladder. The lesions (red arrow) in the left postero-lateral wall of the urinary bladder show few calcifications (yellow arrow). (Images from left to right)



**[Table/Fig-3]:** Axial contrast enhanced CT of the urinary bladder. The lesions (red arrow) show moderate heterogeneous contrast enhancement (HU+70to+86).

**[Table/Fig-4]:** Stipple sign: Contrast is seen filling the interstices (blue arrow) between papillary projections. (Images from left to right)

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