

Missed Diagnosis

Diagnosis easily missed – upper urothelial tumour

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Summary: Four patients with transitional cell tumour of the renal pelvis and ureter who had atypical presentations are described. The associated presenting problem delayed an earlier diagnosis in two patients and facilitated it in the other two.

Introduction

Transitional cell tumours of the renal pelvis and ureter are relatively uncommon.¹ Forty-six cases were recorded in our department over a 16-year period (1970–86). Four of these patients had an unusual clinical presentation and are reported here.

Case reports

Case 1

A 65 year old man presented with repeated episodes of fresh bleeding per rectum. Further investigations established the diagnosis of carcinoma of the rectum arising from the right rectal wall. Prior to abdominoperineal resection, he complained of right flank pain and intravenous urogram revealed an obstructed right kidney. Ultrasound examination confirmed a hydronephrotic right kidney and a dilated right ureter. Cystoscopy was normal. Retrograde ureterography showed partial obstruction in the right ureter at the level of the ischial spine. The obstruction was thought to be due to associated rectal pathology. During abdominoperineal resection the ureter was dissected free, and no tumour was palpable. The rectal lesion was confirmed on histological examination to be Duke B adenocarcinoma.

The patient was re-admitted after 5 months with haematuria. There was no change in the urographic appearances. Cystoscopy demonstrated a papillary tumour projecting through the right ureteric orifice. Nephro-ureterectomy with excision of a cuff of

bladder mucosa was performed. Histological examination showed multiple T1 G1 papillary tumours in the pelvis and lower ureter. The patient was well 3½ years later.

Case 2

A 68 year old man presented with recurrent episodes of painless haematuria. Intravenous urogram showed a non-functioning right kidney. There was also a large filling defect in the bladder. Ultrasound examination of the right kidney demonstrated a large baggy right kidney obstructed at the pelvi-ureteric junction. No other lesion was seen and the obstruction was thought to be due to primary pelvi-ureteric junction obstruction. Cystoscopy revealed a papillary T1 tumour on the left posterolateral wall of the bladder which was resected.

Six months later the patient was re-admitted with haematuria. Cystoscopy was normal and retrograde studies on the right side were unsuccessful. Right antegrade pyelogram showed a large hydronephrotic kidney with obstruction at the pelvi-ureteric junction. Cytology of the aspirated fluid from the kidney however was positive for malignant transitional cells. Right nephro-ureterectomy with a cuff of bladder mucosa was undertaken. Histological examination confirmed multiple G1 T1 papillary tumours in the pelvis and upper ureter. The patient was well 5 years later.

Case 3

A 74 year old man was admitted as an emergency with right ureteric colic. Intravenous urography showed a right ureteric calculus with a filling defect in the left renal pelvis. He subsequently passed the

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ureteric stone. Retrograde studies and upper tract cytology of the left kidney confirmed the presence of a transitional cell tumour in the left kidney. Left nephro-ureterectomy with excision of a cuff of bladder mucosa was undertaken. Histological examination confirmed G2T1 single transitional cell tumour in the left renal pelvis.

The patient was well 4 years later.

Case 4

A 75 year old man was admitted with acute retention of urine. Rectal examination revealed enlarged benign prostate. Intravenous urography showed a thick-walled bladder. The upper renal tracts were normal except that the left middle calyces were poorly filled. Transurethral resection of the prostate was carried out. Histological examination showed benign prostatic hyperplasia.

In view of the left middle calyceal abnormality, intravenous urogram was repeated 3 months later. This demonstrated total amputation of the left middle calyx. Renal arteriogram confirmed the presence of a urothelial tumour. Left nephro-ureterectomy with excision of cuff of bladder mucosa was performed. Histological examination demonstrated a G1T1 tumour arising in the middle calyx and extending into the pelvis. The ureter was normal.

The patient died of bronchopneumonia 5 years later.

Discussion

A majority of patients with transitional cell tumours of renal pelvis and ureter present with haematuria.¹ However, loin pain or a palpable kidney are not uncommon features.² In three of the patients described there was no symptom pointing to the presence of an upper urothelial tumour, and

in the fourth patient the haematuria was attributed to the co-existent transitional cell carcinoma of the bladder. Furthermore, in two patients, investigation for the associated presenting problem, namely ureteric colic on the opposite side and acute urinary retention due to prostatic enlargement led to a surprising but early detection of the upper tract tumour. On the other hand, in the other two patients the concomitant presenting problem, namely carcinoma rectum and carcinoma bladder, overshadowed the upper tract lesion resulting in a definite delay in diagnosis.

Whilst incidental discovery of asymptomatic upper urothelial tumours has been reported,^{3,4} literature survey did not reveal any report of co-existent carcinoma rectum and primary upper urothelial tumour. The association of transitional cell tumours of renal pelvis and ureter with similar tumours in the bladder is, however, well documented.⁵ This is particularly so in patients with multifocal urothelial neoplasia.⁶

These case reports show that upper urothelial tumours can present in uncharacteristic ways and that ultrasound is an inadequate investigation for the diagnosis of these tumours. It is mandatory that a patient presenting with haematuria ought to have intravenous urography. Moreover, every intravenous urogram should be carefully and critically evaluated. This is particularly so if the upper tracts are poorly visualized or calyceal abnormalities are present even in the absence of symptoms pertaining to an upper urothelial tumour.

The last decade has witnessed remarkable advances in endoscopy of the upper urinary passages. Ureteroscopic and percutaneous techniques are being tried for the diagnosis, as well as management of these tumours.⁷ Whilst the conventional treatment of these tumours remains nephro-ureterectomy with excision of a cuff of bladder mucosa, conservative excision is being increasingly advocated for single low grade tumours.⁸

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