PRIMARY ADENOCARCINOMA OF THE LOWER URETER – A CASE REPORT

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ABSTRACT

Adenocarcinomas of the ureter are extremely rare tumoursand less than twenty cases have been reported in english literature. Due to the non specific clinical and imaging characteristics of these neoplasms, a preoperative diagnosis is only made rarely. We report a case of primary ureteric adenocarcinoma in a middle aged male and describe the computed tomographic findings. A 45 year old male presented with long standing hematuria and loin pain. Ultrasound and computed tomographic examinations revealed a small homogenous mass in lower ureter casuing luminal obstruction. The tumor was biopsied by ureteroscopy and a histopathological diagnosis of “Adenocarcinoma ureter - non villous subtype” was made following which aradical nephroureterectomy was performed.

Key words: Adenocarcinoma, ureteric tumour, hematuria

Introduction

Primary carcinomas of the renal pelvis and ureter are relatively uncommon and account for less than one percent of all urogenital neoplasms.[1] Malignancies of the ureter are typically transitional cell carcinomas and primary adenocarcinomas of ureter are even rarer. Less than twenty case reports of primary ureteric adenoacrcinomas have been reported in literature. A review of literature reveals that most of the reported cases are from india and japan, however no cause has been identified for this regional predilection. Adenocarcinomas have been reported in association with calculus,hydronephrosis, long-standing infection and other inflammatory states. There is also a paucity of information in literature regarding the clinical and imaging features of these tumors. We report a case of primary adenocarcinoma of the lower ureter in a middle aged male and describe the computed tomographic findings.

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Case Report

A 45 year old male presented with the complaints of painless heamturia and flank pain for the past 4 months. There was no history of fever , weight loss or any other constitutional symptoms .

An ultrasound abdomen was performed which showed grossly hydronephrotic right kidney with marked thinning of cortices and dilated right proximal ureter. Distal ureter could not be traced due to overlying bowel shadows. Left kidney , ureter and bladder were found to be normal . Thereafter a non contrast followed by contrast enhanced CT scan of abdomen was performed. A small round soft tissue density mass lesion was seen arising from the lower third of right ureter at the level of pelvic brim. The mass was obstructing the lower ureter with gross proximal hydroureteronephrosis and thinning of the renal parenchyma. No calcification, hemorrhage or necrosis were noted within the mass. The mass was circumscribed with well defined margins and did not appear to infiltrate into

the retroperitoneal fat. No retroperitoneal lymphadenopathy was seen. Ureter distal to the mass and right ureteric orifice were not visualized. Function of right kidney was markedly deranged and there was no contrast excretion in the right kidney and ureter even on delayed scans. Left kidney and ureter were normal. The tumour was then biopsied on ureteroscopic examination and diagnosed as "adenocarcinoma of ureter-non villous" subtype and a right sided nephroureterectomy was performed. On follow up examination after 3 months of surgery, no recurrence of the mass was seen.

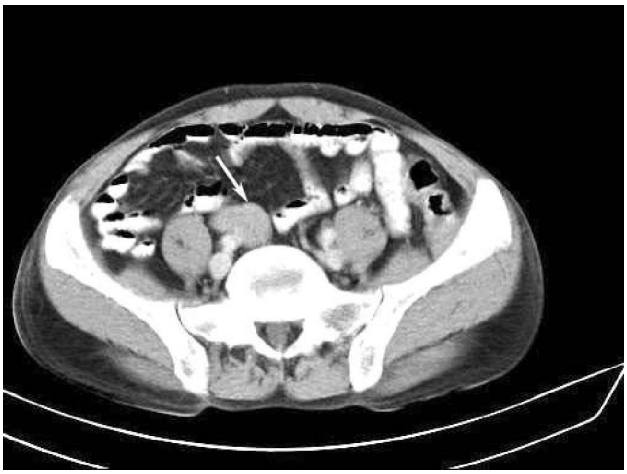

Figure 1: Axial contrast enhanced CT scans shows a lobulated homognenously enhancing mass in the distal right ureter (arrow).

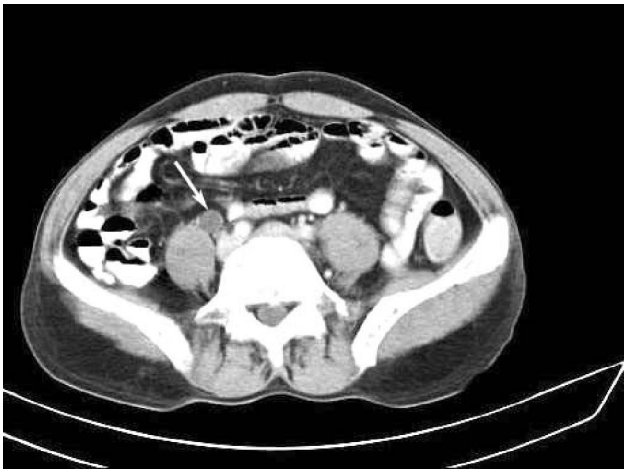

Figure 2: Axial CT scan at a higher level than fig 1 shows dilated right ureter (arrow).

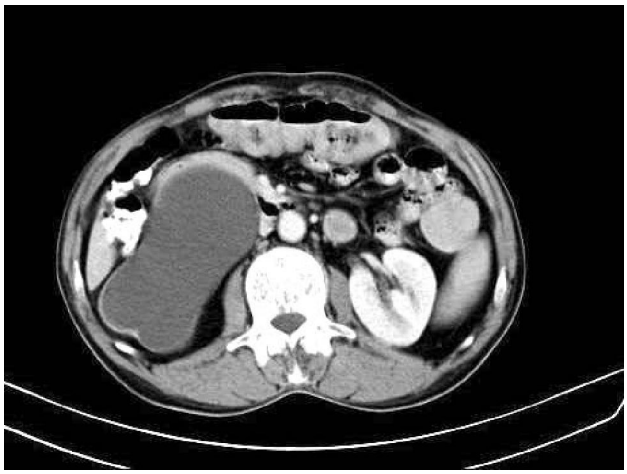

Figure 3: Axial CECT scan at the level of kidneys shows markedly dilated right ureter and pelvicalyceal system with grossly thinned out renal parenchyma.

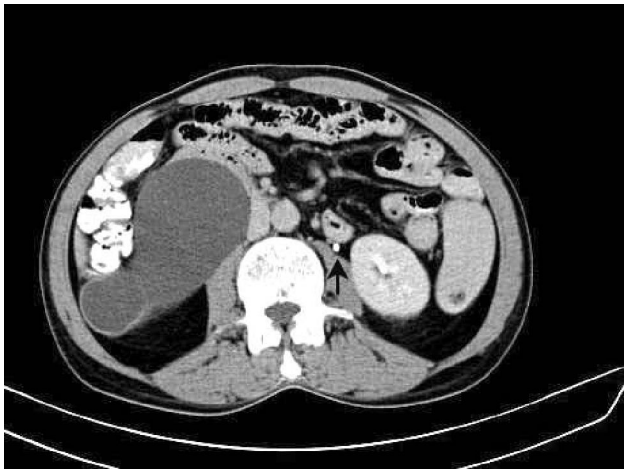

Figure 4: Delayed CT scan shows little or no contrast enhancement in the right kidney and no contrast material excretion is seen in the right ureter. Left ureter has opacified normally with contrast (arrow).

Discussion

Malignancies of the ureter are rare with majority of them being transitional cell type followed by squamous cell and adenocarcinomas. It commonly occurs in the age group of 60-70 years. Most of the tumors occur in the lower third of ureter and more than 40% of these tumors are associated with a ureteric calculus. Histopathologically these tumours are subdivided into tubulovillous, mucinous and non-villous subtypes.[2] Immunohistochemical staining with CA 125 and CA 19-9 has been found to be positive and may help in the diagnosis and follow up.[3]

Ureteric adenocarcinomas have been frequently associated with calculus, infection, inflammation and

hydronephrosis. It is postulated that chronic irritation to the lining urothelium leads to glandular metaplasia which may then progress to dysplasia and carcinoma.[4] The imaging findings of these tumors have not been adequately described in literature. Most of the published case reports deals with the pathological and clinical aspects of this neoplasm.In our case, there was a well circumscribed rounded mass in the lower ureter obstructing the ureteric lumen with proximal hydroureteronephrosis . No retroperitoneal lymph nodes or infiltration into the retroperitoneal fat is seen .Based on imaging features it is not possible to differentiate between the different histological subtypes of ureteral adenocarcinomas or from the more common transition cell carcinomas.

Preoperative diagnosis of this tumour is difficult and most of the cases are diagnosed on histopathology of the resected specimen. This tumor can be easily missedin its early stage due to the absence of specific clinical manifestations. Presence of hydroureteronephrosis is commonly attributed to renal calculi and further imaging procedures are not performed. It is also important to remember that a calculus and a malignant mass can frequently co exist. Distal ureter is very difficult to visualize on ultrasound due to overlying bowel and a small tumour in the distal third of ureter can be missed unless a contrast CT scan is performed .Yilmaz et al reported a case of adenocarcinoma of the upper ureter with extensive bony metastases in which the primary tumour was not detected on both ultrasound and computed tomography.[5]

The treatment of ureteric adenocarcinoma is chiefly surgical followed by radio and chemotheraphy. The standard operation is radical nephrectomy with ureterectomy with adjunctive chemotheraphy. The prognosis of these tumors depends upon the histological subtype . A favourable prognosis is ascribed to the non villous sub type with a 100 % five year survival rate and mucinous subtype has an intermediate prognosis with 67% five year survival . Tubulovillous adenocarcinomas have the worst prognosis with five year survival of less than 30%.

In conclusion primary adenocarcinomas of the ureter are extremely rare neoplasms and can be easily missed unless there is a high degree of suspicion. Ultrasound and computed tomography often fail to detect these tumors and a diagnosis is only made post operatively.[6]

Conflict of interest : The authors have declared that no conflict of interest exists.

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