Urology Case Reports 10 (2017) 26–29

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Oncology

Thrombus-like Tumor of Renal Cell Carcinoma Mimicking Transitional Cell Carcinoma of Kidney: A Case Report

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ARTICLE INFO

Article history:
Received 21 September 2016
Accepted 19 October 2016

Keywords:
Upper tract urothelial carcinoma
Renal cell carcinoma
Uteral invasion
Thrombus-like tumor

ABSTRACT

Renal cell carcinoma (RCC) is the most common malignancy of the kidney. It is not commonly form tumor thrombus in the ureter or renal pelvis. A 29-year-old woman presented with asymptomatic gross hematuria. Contrast CT study revealed a tumor suspected to be a Transitional Cell Carcinoma (TCC). However, tumor thrombus was found in the renal pelvis and ureter. We performed Nephroureterectomy, bladder cuff excision, and lymph node dissection, and the tumor was diagnosed histopathologically as RCC. We report a very rare case of thrombus-like tumor of renal cell carcinoma mimicking transitional cell carcinoma of kidney.

Introduction

According to GLOBOCAN in 2012, the incidence and mortality rate of kidney cancer was 2,4% and 1,7% worldwide, respectively.[1] Approximately 25% to 30% of patients with renal cell carcinoma present with advanced stage disease.[1] Local renal tumor growth and extension may involve the perirenal fat, adrenal glands, renal vein, inferior vena cava, urinary collecting system and/or adjacent retroperitoneal structures, this type of tumor rarely forms in the renal pelvis nor the ureter.[2] Currently, no study has characterized Urinary Collecting System Invasion (UCSI) of RCC including thrombus-like tumor in the renal pelvis and/or ureter as a criterion for staging renal cell carcinoma.[2]

We report a very rare case of RCC that has thrombus-like tumor growth inside, without invading, the ureter mimicking TCC of kidney.

Case presentation

A 29 year old woman came with chief complaint of asymptomatic hematuria since 5 months ago. On physical examination, there was pain on palpation on the left flank with no palpable mass. Laboratory (Table 1), contrast abdominal CT scan (Fig. 1), cystoscopy (Fig. 1) and chest X-ray was performed, no metastasis was found. The patient was diagnosed with Upper Tract Urothelial Carcinoma (UTUC) cT3N2M0. An open left nephroureterectomy, bladder cuff excision, and left paraaortocaval lymph node dissection were performed.

The tumor had replaced the entire kidney parenchyma, making identification of the pelviocalyceal system challenging. Histologically, there were 2 types of tumor found (Fig. 2A). The tumor had invaded the lymphovascular, pelviocaleceal system, and along the inside of the ureter (Fig. 2D). The tumor was then diagnosed as renal cell carcinoma mixed type between clear cell and papillary cell type 1, with Fuhrman grade 3. There were 12 out of 18 lymph

Table 1
Laboratory findings

	Result	Normal levels	Units
Hemoglobin	7,3	12–14	g/dL
Blood calcium	8,5	8,4–10,2	mg/dL
Lactate dehydrogenase	1101	< 215	U/L
Albumin	3.85	3,5–5,2	g/dL
Ureum	25	< 50	mg/dL
Creatinine	1	0,6–1,2	mg/dL
Urinalisis			
•Erythrocyte	70	0–2	/High power field
•Leucocyte	18–20	0–5	/High power field

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.
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http://dx.doi.org/10.1016/j.eucr.2016.10.013

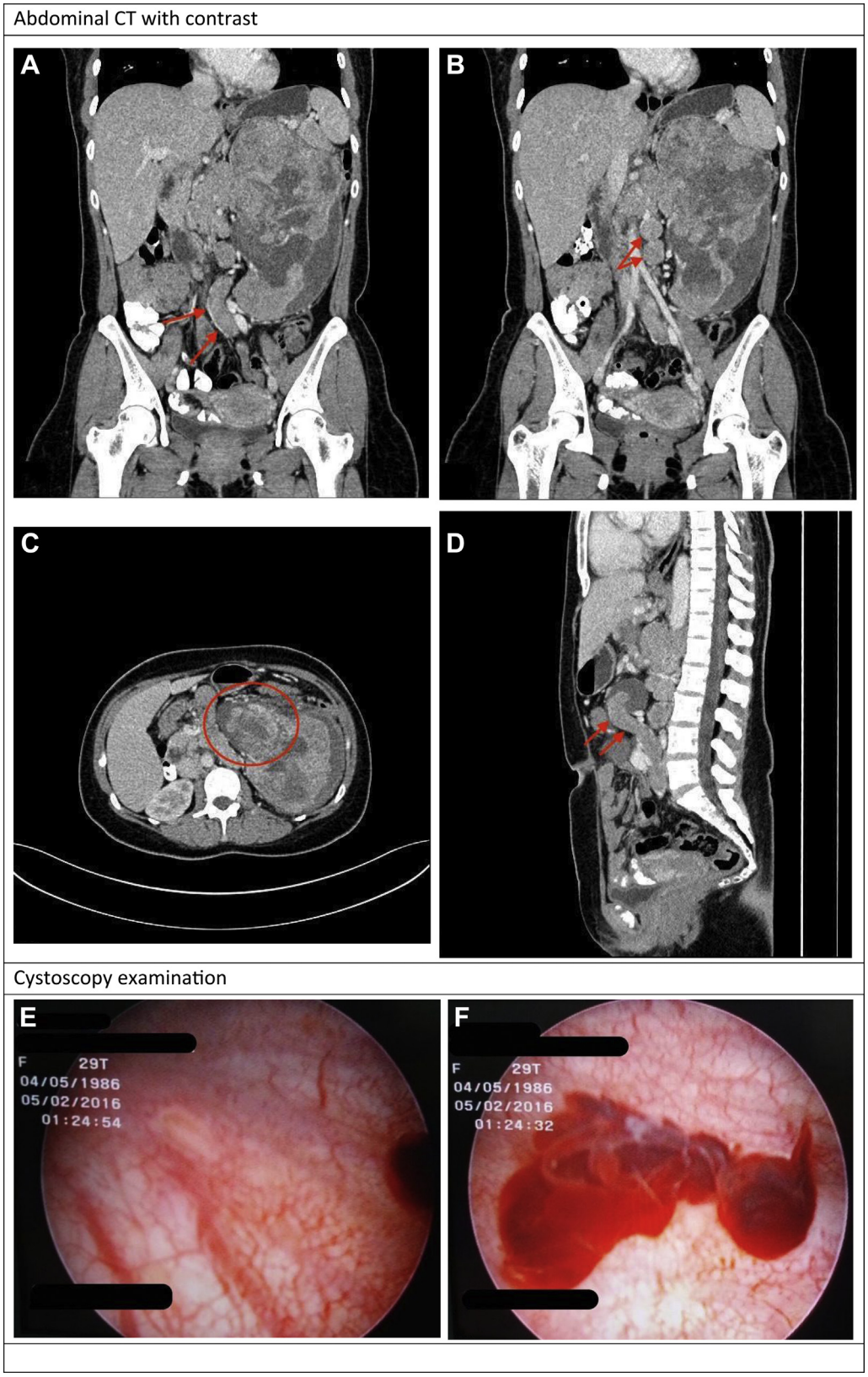

Figure 1. Preoperative abdominal CT scans. The kidney was enlarged (± 19,4 × 15 × 10,9 cm) and there was mass in the superior until inferior pole of the left kidney. Contrast imaging shows thrombus-like mass extending from the renal pelvis towards the distal left ureter that enhance after contrast administration (A, arrows) and multiple enlargements of paraaorta and paracaval lymph nodes with size of ± 1,8 cm (B, double arrow) that caused shifting of the aorta and inferior vena cava to the left, pancreas towards the anterior, and narrowing of the left renal vein. Thrombus-like mass have encompass the proximal ureter (C, circle) towards the tortuous length of the ureter (D, arrows). Cystoscopy examination. Normal right ureter orifice (E). Blood clot that originated from the left ureter orifice (F). Note there are no obvious tumorous lesions.