

**Renal cell carcinoma presenting as a testicular mass****Vijay Kumar, Sarma Madduri, Bastab Ghosh, Dilip Kumar Pal**

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**Abstract:** The usual sites of metastases from Renal Cell Carcinoma (RCC) are lung, bone and lymph nodes. RCC metastasizing to the testis is very unusual, with only anecdotal case reports in literature. Here we present a rare scenario where a man presented with only a painless enlargement of left testis and no other complaints. Further workup revealed a synchronous left sided renal cell carcinoma. The salient points in the management of this case and the relevant literature is discussed.

**Keywords:** kidney, clear cell carcinoma, testicular tumor, metastasis.

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**INTRODUCTION**

RCC is the most lethal of common urologic cancers. Clear cell variant of RCC arises from the proximal convoluted tubules. It accounts for 70-80% of all renal cell cancers. Metastatic RCC usually presents with symptoms like persistent cough, bone pain, cervical lymphadenopathy and constitutional symptoms like fever, weight loss and malaise. [1]. RCC metastasizing to the testis is very rare [2]. Here we report a metastatic RCC presenting as a testicular mass, highlighting the unusual tumor biology and pattern of spread.

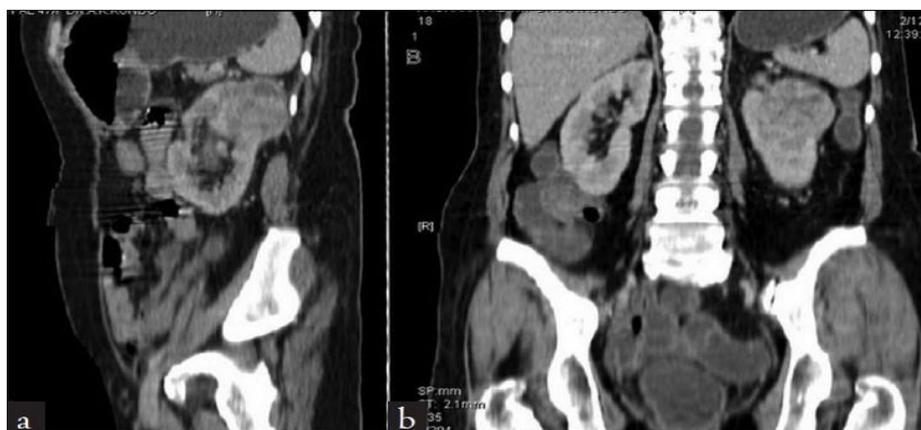
**CASE REPORT**

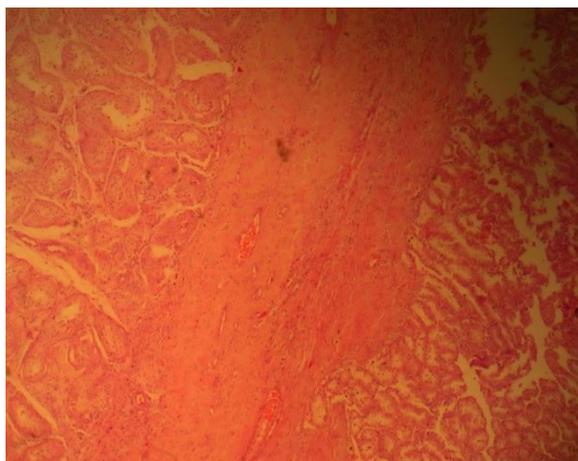
A 47 year old non diabetic and non hypertensive male patient presented with a painless enlargement of the left testis of two month duration. Physical examination revealed an enlarged testis the size of 6x6 cm. There was no palpable abdominal lump. Testicular tumor markers were within normal limits. A contrast enhanced computed tomography (CECT) scan

of the abdomen did not reveal any retroperitoneal lymphadenopathy but instead revealed a left renal tumor 8x6x5 cm. The left renal vein and Inferior Vena Cava were free of tumor. A bone scan was done which turned out to be negative.

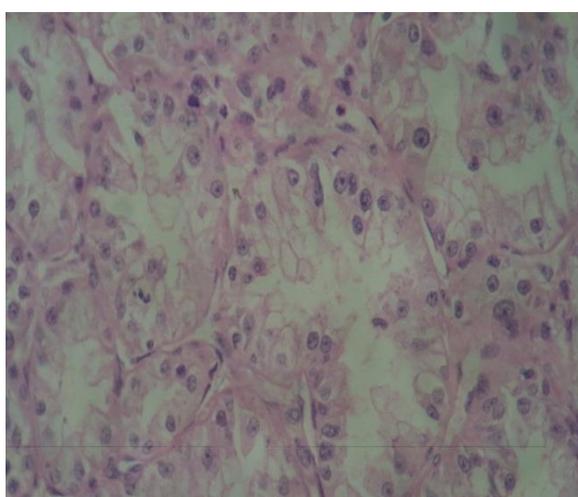
After obtaining an informed written consent, the patient underwent left radical nephrectomy and left high inguinal orchiectomy. Pathologic examination of the nephrectomy specimen showed clear cell type renal carcinoma- Fuhrman Nuclear grade II. No lymphovascular or perineural invasion was found. Capsular invasion at some places was noted but there was no invasion of perinephric adipose tissue, renal vein, renal pelvis or ureter. Pathological examination of the testis showed metastatic renal cell carcinoma. Lymphovascular tumor emboli were found. The spermatic cord was free of lesion.

The post operative period was uneventful and the patient is doing well 6 months after surgery.

**Fig-1: CECT Abdomen showing left renal mass**



**Fig-2: Histopathology of testis showing seminiferous tubules on the left and metastatic RCC on the right**



**Fig-3: Magnified view showing metastatic RCC in the testis**

## DISCUSSION

RCC accounts for 2-3% of all adult malignant neoplasms. Clear cell RCC accounts for 70-80% of all RCC [1]. Metastatic disease is present in approximately one third of patients with RCC at the time of diagnosis, with the majority in the lungs (50%), bones (49%) and lymph nodes (32%). Metastasis to the testes is very rare with only sporadic case reports in the literature [2]. In an autopsy series of 1451 renal cell carcinoma patients, 81% had metastases to multiple organs, except the testes [3]. Pienkos et al, in an autopsy series of 24,000 cases, reported metastatic tumors of the testis in only 15 cases. Only one of these was of renal origin [4].

Testicular metastasis from RCC presents usually as an ipsilateral testicular swelling, invariably on the left side. It may present synchronously or precede the diagnosis of renal tumors. The most common subtype found in RCC metastatic to the testis is clear cell type, although rarely the chromophobe variant may also be found [5]. If a clear cell tumor or Sertoli cell tumor of the testis is encountered, a diagnosis of renal cell carcinoma metastatic to the testis should be considered. This has implications for the

prognosis and survival of patients, since Sertoli cell tumor has much better prognosis as compared to metastatic RCC [6].

The low temperature in the scrotum is supposed to inhibit the growth of tumor cells and hence, testis is considered a rare site for metastatic deposits. Left testicular metastasis is more often seen, presumably due to hematogenous spread via left testicular vein. The diagnosis is made clinically and confirmed histopathologically. High inguinal orchiectomy establishes the diagnosis and treats the lesion as well [7]. Although metastases signify advanced disease stage, long term disease free survival has been reported after orchiectomy after isolated metastatic disease [8].

In this case, the initial presenting symptom of left sided RCC was a painless enlargement of left testis. The renal tumor emboli presumably seeded the left testis through the hematogenous route via left renal vein and left testicular vein. Radical nephrectomy and left high inguinal orchiectomy was done to extirpate the tumor with good result at 6 months follow up.

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## CONCLUSION

Metastatic tumor from a primary elsewhere in the body, is an uncommon cause of testicular enlargement. This case report serves to emphasize that metastasis from a silent RCC, howsoever rare, should always be kept in the differential diagnosis of a testicular mass.

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