Small renal tumor with lymph nodal enlargement: A histopathological surprise

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INTRODUCTION

The association of renal cancer and renal tuberculosis (TB) in the same kidney is uncommon. Less than fifty cases have been reported in the literature.[1] While the incidental discovery of renal cell carcinoma (RCC) in a tuberculous kidney is a classical finding, the discovery of tuberculous lesions after nephrectomy for cancer is exceptional.[1,2]

We describe a case in which postradical nephrectomy for renal cancer, histological examination revealed associated TB.

CASE REPORT

A female, aged 54 years, without any co-morbid illness was incidentally detected to have a renal tumor. Computerized tomography-urogram revealed a 39 mm × 34 mm, exophytic, solid, enhancing lesion, with the necrotic area within in the left kidney, with multiple enlarged paraaortic, and left renal lymph nodes. There was no obvious abnormality in the rest of the parenchyma or the urinary tract. A laparoscopic radical nephrectomy was performed during which multiple enlarged lymph nodes were seen in the renal and paraaortic region [Figure 1]. The entire specimen was sent for histopathology.

The final histopathology was reported as conventional clear cell carcinoma, Fuhrman Grade II with tuberculous nephritis. The paraaortic lymph nodes were reported as tuberculoid granulomas, with no tumor metastasis. The rest of the kidney contained epithelioid granulomas and giant cells [Figure 2]. The margins and perirenal fat removed was free of histological abnormalities. Ziehl–Neelson (ZN) stain for acid-fast bacilli

Abstract

Renal cancer with lymph nodal mass on the investigation is clinically suggestive of an advanced tumor. Small renal cancers are not commonly associated with lymph nodal metastasis. Association of renal cell carcinoma with renal tuberculosis (TB) in the same kidney is also rare. We report here a case of small renal cancer with multiple hilar and paraaortic lymph nodes who underwent radical nephrectomy, and histopathology report showed renal and lymph nodal TB too.

Key Words: Renal cell carcinoma, renal cell carcinoma with tubercular nephritis, tubercular nephritis

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(AFB) and stains for fungal organisms were negative. However, polymerase chain reaction for TB on the tissue was positive.

The search for tubercular bacilli performed in urine and sputum after surgery was negative. Neither had the preoperative chest radiograph showed any signs of TB. A quadruple anti-tubercular regimen was subsequently started. The patient is on regular follow-up and is doing well.

**DISCUSSION**

TB is a common public health problem in endemic areas such as Southeast Asia. It is an important diagnostic problem because of its nonspecific clinical presentation and variable radiographic appearances that mimic many other pathologic lesions. The first note of urogenital TB was made by Porter (1894).

Later, Wildbolz (1937) suggested the term genitourinary TB (GUTB). The term “Urogenital TB” is more logical because kidney TB, which is usually primary, is diagnosed more often than genital TB. Only 53% of patients with kidney TB had genital lesions, but in 61.9% of patients with epididymorchitis and 79.3% of patients with TB of the prostate, a renal lesion could be diagnosed. In GUTB, the kidneys are the most common sites of infection and are infected through the hematogenous spread of the bacilli, which then spread through the renal and genital tract. GUTB is the second most common form of extrapulmonary TB in countries with severe epidemic situations and the third most common form in regions with a low incidence of TB.

Renal cancer with lymph nodal mass on the investigation is clinically suggestive of an advanced tumor. Small renal cancers are not commonly associated with lymph nodal metastasis. The occurrence of renal cancer and renal TB in the same individual is rare. Feeney *et al.* estimated that the likelihood of these diseases occurring simultaneously in an individual is approximately 1 in 10 billion; occurrence in the same kidney would be even rarer.

Renal cancer occurs in 0.2% of cases of renal TB and proposed to be as a result of reactivation of latent TB secondary to local immunosuppression induced by the tumor. The clear cell adenocarcinoma is histological form predominantly found associated with renal TB.

Granulomas with unknown etiology and without secondary changes like necrosis are designated as sarcoid-like forms. The distinction between a tumor-related granulomatous reaction and true sarcoidosis can be a problematic issue. Such lesions...
have been described in association with lymphoma and other solid tumors.\(^7\) Khurram \textit{et al.}\(^8\) studied a series of breast carcinomas with associated granulomatous reaction in lymph nodes with or without necrosis. In all cases, ZN stain for AFB and periodic acid-Schiff stain for fungus were negative. Six of the 12 cases that had granulomas with necrosis were positive for \textit{Mycobacterium tuberculosis} (MTB)-DNA, whereas 5 of 10 cases without necrosis were also positive for MTB-DNA. This correlates well with our findings of the presence of an RCC with granulomas showing the presence of MTB-DNA. Al-Assiri \textit{et al.}, found RCC and squamous cell carcinoma to coexist in a tuberculous kidney.\(^9\)

In our case, it was clinically a small renal tumor with lymph node metastasis, which was later diagnosed to have associated tuberculous lesions. The patient had no known history of mycobacterial infection. To the best of our knowledge, only few cases of accidental discovery of isolated renal TB have been reported in the literature.\(^1,2\) In the case of small polar tumor, partial nephrectomy preceded, or followed by anti-TB treatment is possible.\(^2\)

**CONCLUSION**

This case illustrates that while the concomitant occurrence of renal TB and renal tumors is rare, the likelihood of concurrence should be kept in mind, especially in patients with small renal masses with lymphnodal mass, especially from TB endemic areas and in patients with equivocal symptoms.

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**Conflicts of interest**

There are no conflicts of interest.

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