

## Case Report

### Regression of Pulmonary Metastatic Renal Cell Carcinoma

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## Abstract

Spontaneous regression of metastatic renal cell carcinoma is rarely observed. A case of spontaneous regression of pulmonary metastases following nephrectomy for histological proven renal cell carcinoma without systemic treatment is presented here along with a brief review of the literature.

## Case Representation

An 82 year old male patient, previously healthy, presented to our clinic complaining of left loin pain of one month duration. Physical examination of the abdomen revealed the presence of solid left loin mass and Grade 3 left varicocele.

Abdominal CT scan was done with IV contrast (Figure 1 and Figure 2), it showed lobulated heterogeneous soft tissue mass arising from the anterior portion of the left kidney measuring 5.5cm X 3cm X 3cm, compressing the left renal pelvis and middle calyx. The renal vessels are possibly encased at the left renal hilum. Few small left para-aortic lymph nodes < 1cm are seen.

Chest CT scan (Figure 3) was done & it showed the presence of solitary cavitating nodule less than 2 cm in diameter in the right lower lobe of the lung. No further steps were done to investigate this.

The patient consequently underwent open left radical nephrectomy through transabdominal transperitoneal approach.

The patient did not like to have neoadjuvant CT after surgery.

The histopathology of the mass was Renal Cell Carcinoma; Clear cell type; Fuhrman's Nuclear Grade: III-IV/IV.

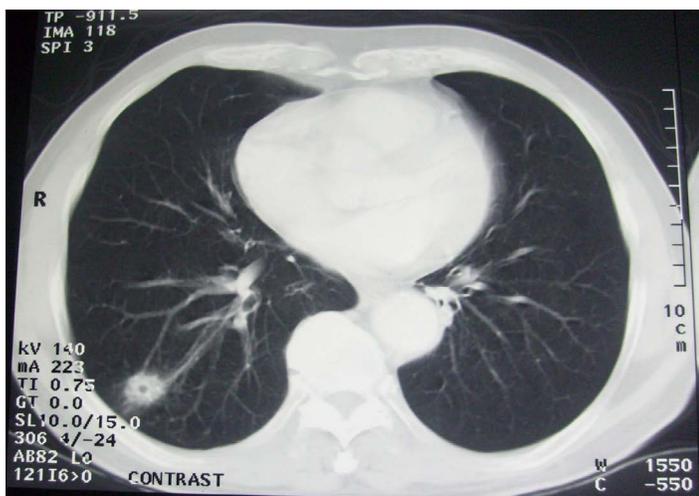
2 months later, when the patient came back to the outpatient clinic as he lived far away from the hospital. Chest CT was repeated (Figure 4) and it showed that the previously seen cavitory nodule in the right lower lobe is almost completely resolved with only linear change is left at the site.



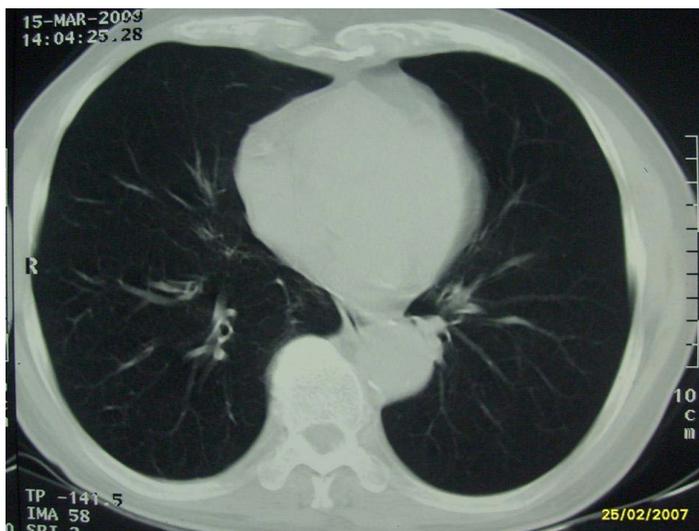
**Figure 1.** Abdominal CT with IV contrast done on 18<sup>th</sup> November 2008; showing lobulated heterogenous enhancing soft tissue mass arising from the anterior aspect of the midportion of the Left Kidney.



**Figure 2.** Abdominal CT with contrast showing the same mass.



**Figure 3.** Chest CT done on 18<sup>th</sup> November 2008 showing the solitary cavitating nodule.



**Figure 4.** Chest CT done on 15<sup>th</sup> March 2009 showing complete reso-

lution of previously mentioned nodule.

## Discussion and Literature Review

Renal cell cancer accounts for 2% of all cancers and its incidence is steadily rising. It usually presents in late adult life and is more common in males than females. Although they are associated with Von Hippel-Lindau disease, adult polycystic kidney disease and multicystic nephroma, most renal cell cancers develop spontaneously [1].

The patient may present with urological symptoms such as haematuria or flank pain or with an abdominal mass or alternatively with systemic manifestations, such as anaemia and fever, or symptoms of metastatic disease and other rare phenomena [2].

Approximately 20% to 30% of patients with renal cell carcinoma present with metastatic disease, and 20% to 40% of patients undergoing nephrectomy for clinically localized disease will develop metastasis [3]. If the tumor cannot be completely resected, the course is generally relentlessly progressive, with median survival of 12 to 18 months after metastasis. 85% of relapses occur in the first three years [4].

However, a group of patients with advanced disease have experienced improvements in survival, which is partly related to the introduction of immunotherapeutic approaches and a better understanding of the role and timing of cytoreductive nephrectomy. Although the benefits of immunotherapy have been displayed repeatedly by several studies, controversy has existed as to the need for adjunctive nephrectomy in treating metastatic patients. Removal of the malignant kidney may be of palliative benefit in some settings of metastatic renal cell carcinoma [5]. There have been studies to demonstrate that the benefits of nephrectomy are in addition to and probably greater than the benefit resulting from the interferon-alpha that all patients would receive. Others argue that immunotherapy as a modality has had disappointingly little proven impact on the survival of patients with advanced renal cell carcinoma compared to a variety of other options with less toxicity [6].

There have been case reports in the literature that describe spontaneous regression of metastatic renal cancer [2,7-15].

Bumpus described the first reported case of spontaneous regression of metastatic renal cell carcinoma in 1928 [7]. Metastatic sites include brain, bone, hilar adenopathy and most commonly pulmonary metastases. The clinical pattern of the improvement is not uncommonly the complete disappearance of disease, and often the regression is long-lasting. Many of these cases are associated with surgical removal of the primary tumor; but regression can also occur in association to radiation or embolization of the primary tumor [8].

The rarity of the observation and the heterogeneity of the clinical circumstances in which spontaneous regression of disease occurs do not provide the opportunity for insight into the pathophysiologic mechanism or into the capability for the identification of potential candidates for regression. Although no single mechanism can completely account for this phenomenon, it can be speculated that resection of the primary tumor may result in removal of a prometastatic or growth factor secreted by the tumor and/or promotion of apoptosis might be involved. Immunologic factors almost certainly play a role in

some cases of spontaneous tumor regression and perhaps removal of bulk tumor enables or stimulates the immune system to control residual disease. Other theories include hormonal changes, trauma and changes in blood supply (via inhibition of angiogenesis by cytokines) [9].

Finally, new approach to metastatic renal cancer focuses nowadays, on multidisciplinary approach and multi-targeted therapies [16,17].

### Conclusion

It is important to recognize the existence of this clinical entity, which, although rare, might provide another argument in favor of surgical intervention or immunological treatment of metastatic renal cancer. The observation itself should also provide encouragement and drive to pursue immunologic as well as other investigations of the disease.

### Competing Interests

I declare no (Competing Interests)

### Acknowledgement

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