

# Tongue trail to kidney

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## ABSTRACT

Renal cell carcinoma (RCC) has the propensity to metastasize to any organ in the body. Tongue metastases from RCC is very rare with most of them being metachronous in nature. We present a rare case where patient presented with a tongue lesion leading to a diagnosis of RCC. Surgery is the preferred modality of treatment for tongue metastases.

**Key words:** Metastases, renal cell carcinoma, tongue

## INTRODUCTION

Metastases comprise 0.2% of all tongue malignancies.<sup>[1]</sup> Lung and breast cancers are the most common to metastasize to the head and neck region, followed by renal cell carcinoma (RCC).<sup>[2]</sup> At this site, RCC metastases is usually of metachronous nature. Very few cases of tongue lesion leading to diagnosis of a renal primary have been reported in the literature.<sup>[2]</sup>

We present a rare case of tongue lesion as initial presentation of RCC.

## CASE REPORT

This paper reports a case of a 63-year gentleman, chronic smoker, presented with progressively increasing swelling over dorsal surface of tongue with difficulty in swallowing for last 3 months. On examination a 3 × 3 cm superficial, mobile, pedunculated, proliferative growth was seen in midline of dorsal surface of tongue [Figure 1]. There was no palpable cervical adenopathy. A punch biopsy of the lesion suggested “carcinoma with clear cell morphology.”

In view of histopathology, computed tomography (CT) scan of neck, chest and abdomen was done which revealed a 5 × 6 × 5 cm heterogeneously enhancing lesion in mid-region extending to upper pole of right kidney with multiple bilateral sub-centimeter lung nodules [Figure 2]. Fluoride positron emission tomography-CT done as a part of metastatic work-up did not reveal any other site of metastases.

Patient underwent right cytoreductive nephrectomy along with wide excision of tongue metastases. Tongue lesion was superficial and did not require any reconstruction. Lung lesions were small and multiple, and could not be resected. Histopathology of kidney mass confirmed the diagnosis of conventional clear cell carcinoma with Fuhrman’s grade one (pT1bN0). Tongue histopathology was suggestive of metastatic deposits of clear cell RCC. Patient was started post-operatively on sunitinib in view of residual metastatic lung lesions.

## DISCUSSION

RCC predominantly occurs in males (1.5:1) with peak incidence in the sixth decade. Approximately 30% of newly diagnosed RCC patients present with synchronous metastatic disease, and an additional 25-30% of patients with clinically localized disease eventually develop metastases. It can metastasize via lymphatic and hematogenous pathways to any location in the body. The common metastatic sites are lung, bone and liver.

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Metastases in the head neck region from RCC are seen in 8-15% of patients with metastatic disease.<sup>[3]</sup> Most are metachronous in nature. Usually, it is a manifestation of widespread metastases in a known case of RCC, but at times such lesions can also lead to detection of a silent RCC. Primary localizing sites in the head neck region include paranasal sinuses, larynx, jaws, temporal bones, thyroid gland and parotid glands.<sup>[4]</sup> Lingual metastases represent only about 1% incidence of metastases to oral cavity and arise most commonly from melanomas, breast, gastrointestinal tract, lung and rarely from kidney.

From 1973 to 2011, 33 cases of a lingual metastasis of a primary kidney tumor were published in the English-language literature.<sup>[5]</sup> Until today, only 7 patients have presented primarily with tongue metastases leading to the diagnosis of RCC [Table 1].<sup>[2,6,7]</sup>

It has been postulated that in the absence of lung or liver lesions, the disease can spread through Batson's venous plexus or thoracic duct. Most tongue metastases involve the base due to its high vascularity and low mobility. However, our patient had a dorsal midline lesion in tongue.

Like primary tongue lesions, lingual metastases can be ulcerated or polypoid and tumor cells can infiltrate the muscle without involving the overlying mucosa.<sup>[1]</sup> Tomita

*et al.* in their review of 18 cases of RCC with lingual metastases, considered this site to be associated with poor prognosis: 83.3% of cases had multiple metastases and mortality within 1 year was 67%.<sup>[8]</sup>

The rarity of this site of metastases can create a diagnostic dilemma in patients with clear cell histology. Malignant clear cell tumors of the head and neck arise as primary from the salivary, thyroid, or parathyroid glands and as secondaries from lung, female genital tract and kidney.

The treatment and best palliation of tongue metastases is surgical excision. Radiation therapy can aid in local symptom control with base tongue lesions.

Cytoreductive nephrectomy is justified in patients with metastatic disease to improve quality of life or local symptoms. Prospective trials have demonstrated that, in patients with synchronous metastatic disease, cytoreductive nephrectomy and cytokine therapy give a distinct survival advantage over immunotherapy alone.

Several retrospective studies have suggested that patients undergoing complete resection of limited metastatic foci may experience long disease free intervals, with median 5 year survival rate of 35-50% in some reports.<sup>[9]</sup> In a report by Kyan and Kato, surgical resection of lingual



Figure 1: Image showing tongue metastases



Figure 2: Computed tomography scan showing right renal mass

Table 1: Previous reports of metastasis of tongue

Authors	Reference	Year	Age/sex	Site	Other metastases
Kapoor <i>et al.</i>	[11]	1987	70/M	Not mentioned	Not mentioned
Ziyada <i>et al.</i>	[12]	1994	59/M	Right base of tongue	None
Aguirre and Rinaggio	[13]	1996	82/F	Tip of tongue	Brain
Azam <i>et al.</i>	[2]	2007	68/M	Anterior right lateral	Lungs, bone
Deniz <i>et al.</i>	[6]	2010	67/M	Midline dorsal	Lungs
Yoshitomi <i>et al.</i>	[7]	2011	47/M	Midline dorsal	Nil
Present case	-	2013	63/M	Midline dorsal	Lungs

metastases followed by administration of interferon-alpha and interleukin-II had a disease free interval of 2 years.<sup>[10]</sup>

Many prospective trials have shown a prolongation of progression free survival and higher response rates with targeted molecular therapy in metastatic disease.

## CONCLUSION

Tongue is a rare site for RCC metastases and in very few patients it has led to detection of an otherwise silent RCC. Only 7 such cases have been reported in the literature. The diagnosis is challenging for both the clinician and the pathologist. Renal evaluation for primary should be considered in differential diagnosis of tongue lesion with clear cell histology. Surgery is the preferred modality for treatment. Patients can achieve long disease free survival with combination of surgical excision and molecular therapy.

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