

# Gingival Metastasis of Renal Cell Carcinoma

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## Abstract

Metastases of internal tumors to the oral cavity are unusual and in most cases involve maxilla and mandible. Metastases to the gingival soft tissue are extremely rare.

Reporting a new clinical case of renal cell carcinoma (RCC) metastasis with an unusual site. Metastatic involvement of gingival tissue with renal cell carcinoma is an extremely rare clinical event. It is usually associated with involvement of an internal organ. We present a case of 47-year-old male patient diagnosed with RCC-associated gingival metastasis- who underwent radical nephrectomy.

The wide range of localizations and forms of metastatic presentation of renal carcinoma should obligate physicians to be alert during the follow-ups.

**Key words:** Renal cell carcinoma; Metastasis; Gingiva

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## Introduction

RCC is the most frequent urological malignancy affecting adults, which occurs mainly among male patients. It includes up to 90–95% of neoplasms originated from the kidney, and roughly 3% of adult malignancies. It usually spreads to lungs, bone and lymph nodes, but seldom affects the head and neck region [1]. The following report describes a male patient who was already diagnosed with RCC, and later on developed metastasis affecting upper gingival region while expressing a swelling mass. The follow up histopathological studies were confirmed with diagnosis of metastatic RCC.

## Case Report

The patient referred for treatment was described as a 47-year-old man who underwent left radical nephrectomy due to renal cell carcinoma as revealed on abdominal CT scan (detecting a tumor of 8x8 cm at the upper and posterior portion of the left kidney). Physical examination was normal with surgical line at the operation site. Laboratory findings were WBC: 6900x10<sup>3</sup>/mm<sup>3</sup>, Hb: 11.6 g/dl, ESR: 86 mm/h, Creatinine: 1.2 mg/dl, AST: 84 IU/L and ALT: 127 IU/L, with no finding in the thoracic CT scan. Pathologic report described renal cell carcinoma with infiltration of adrenal gland and surrounding adipose tissue and vasculature. The patient was administered subcutaneously with

3000000 IU of interferon alpha every other day. Eight months later, the patient complained of swelling and severe pain in the upper gingiva, while CT scan revealed a large lytic lesion in the maxilla along with a 25 mm lymphadenopathy in left pulmonary hilar region. Incision biopsy of the gingival mass was in favour of metastasis. Figures show the swelling of the gingiva and provide radiological and pathologic findings of the patient.

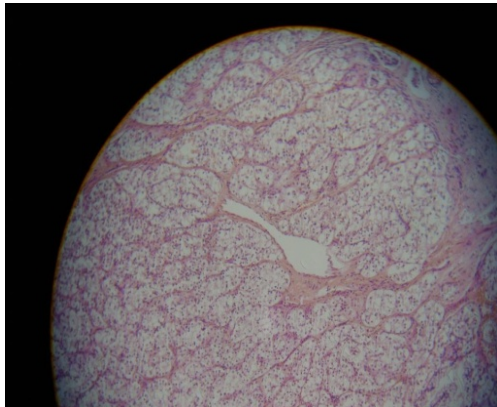
## Discussion

Malignant tumors of the mouth and jaws represent 1 to 8 percent of all metastatic lesions, which are considered as rare sites of metastases originated from different primary tumors [2, 3]. Metastases of renal cell carcinoma usually occur at nasosinus region followed by breast and lung [4].

RCC is regarded as the most usual form of cancer affecting kidney. Its clinical course is initially asymptomatic, and 25-30% of patients are diagnosed as metastatic at the referral. Metastatic RCC is one of the malignancies known to be very resistant for treatment. Recoveries are very rare and average post-diagnostic survival is less than a year [5].

RCC has been shown with ability of metastasis to another organs with rare occurrence such as metastasis to bilateral adrenal glands [6], skin [7, 8], pancreas and spleen [9], gastric or duodenal [10], skeleton [11], pancreas [12], bladder [13], ovary

[14] and brain [15]. Although metastasis to the eye



**Figure 1.** Slide of kidney: clear cells are present in nest pattern in fibrovascular stroma

and orbit are very rare, Shome D et al had previously reported 68 cases. He noted that in patients who are expressing atypical orbital or ocular masses, especially with a history of previous renal disorder, the possibility of RCC metastasis could not be disregarded [16].

Müller-Mattheis described the case of a 47-year-old woman with RCC and an intraoral soft tissue metastatic lesion [2].

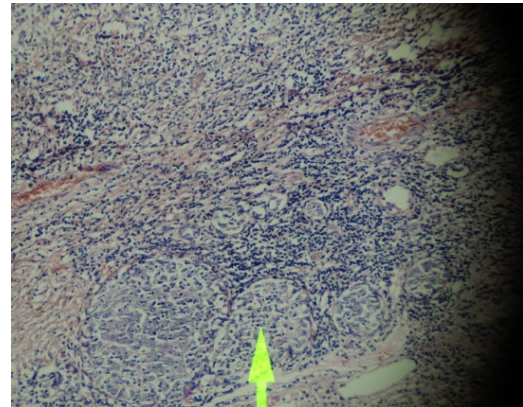
Even though metastatic lesions to the gingiva are rare to occur [17, 18], clinically, they tend to mimic the ordinary localized hyperplastic lesions of the gingiva [18]. Review in previous studies reveal that the gingiva is the most common location of metastatic hypernephroma in the oral soft tissues [7]. Pastremoli reported a case of metastasis in the maxillary and mandibular gingiva as the primary clinical sign of an unknown asymptomatic renal carcinoma [19]. Pastremoli [19] and Buchner [18] described an unusual case of metastatic cell carcinoma in the gingiva without roentgenographic evidence of underlying bone involvement.

Surgical removal, radio/chemotherapy and hormonal therapy may be used to treat metastases [1]. However, due to overall poor prognosis only palliative treatment was given to the patient. Moreover, he died three months after the diagnosis of the metastasis. This outcome supports the previous reports indicating a relatively poor survival rate of only 6–9 months for patients with metastatic RCC [1].

## Conclusion

Metastasis from internal neoplasms should be considered among other differential diagnoses in the

evaluation of gingival tumors. Although this case is



**Figure 2.** Slide of gingiva

Infiltration of tumoral cells in stroma of gingiva

unusual, it should be recognized by periodontists that gingival masses similar to benign or inflammatory lesions may represent an initial sign of underlying malignant tumors.

## Acknowledgment

The authors would like to acknowledge the patient for his contribution.

## Conflict of Interest

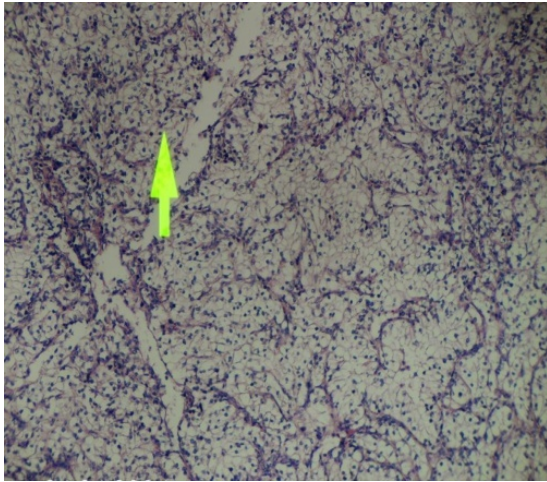
The authors have any conflict of interest.

## Authors' Contribution

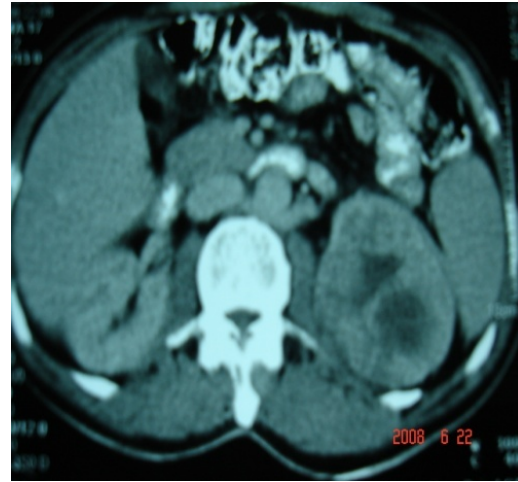
EZJ designed the article and wrote the case report while FA and ER had contributed in pathological review and report.

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**Figure3.** Slide of gingiva:Clear cells arranged in nest pattern in gingiva



**Figure4.** CT scan of the abdomen shows tumoral lesion in the kidney



**Figure5.** Gingival swelling

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