CASE REPORT

Unusual Metastasis Of Renal Cell Carcinoma To Upper Gingiva: A Rare Case Report

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Revised date: 10 January, 2024 Acceptance date: 6 February, 2024

ABSTRACT

Background-Metastatic lesions of the oral cavity are extremely rare, accounting for approximately 1% of all malignant oral tumors. Renal cell carcinoma (RCC) is the third most frequent neoplasm to metastasize to the head and neck region preceded only by breast and lung cancer. **Case presentation-** we present a case of patient with oral cavity metastases of clear cell variant of renal cell carcinoma. An 52 years old female noticed swelling on left upper gingiva in . In September 2023 , she came to our department because the mass had slowly enlarged. His past medical history included clear cell RCC in his Right kidney in June 2022 with multiple pulmonary metastases afferently present she has been treated by Right sided radical nephrectomy. He had received molecular targeted therapy with sorafenib for 1 years followed by sunitinib and was on follow up developed upper gingival Metastasis of rcc and was treated with 20 GY / 5# by intensity modulated radiotherapy technique (Figure 2) to left upper gingiva in Oct 2023 as a palliative radiotherapy approach. Now she is currently on Lenvatinib and is doing well. **Conclusion:** RCC has been shown to metastasize to the head and neck region in rare instances.Surgical therapy may be recommended because of its high local control rate and ability to maintain quality of life. If metastatic RCC is established, additional therapeutic options, including immunotherapy, tyrosine kinase inhibitors

INTRODUCTION

Metastatic lesions of the oral cavity are extremely rare, accounting for approximately 1% of all malignant oral tumors. Renal cell carcinoma (RCC) is the third most frequent neoplasm to metastasize to the head and neck region preceded only by breast and lung cancer. When metastatsesoccur , the jawbones are twice as likely to be involved then oral mucosa . The most common sites of metastasis include the lungs, regional lymph nodes, bone, liver, adrenal glands, contralateral kidney and brain [1]. RCC metastases are often regarded as radioresistant tumors, and surgical treatment is recommended. However, given the poor prognosis of metastatic RCC to the oral cavity, careful consideration is necessary regarding whether surgery can improve quality of life for end-stage oncological patients.

Herein, we present a case of patient with oral cavity metastases of clear cell variant of renal cell carcinoma.

CASE PRESENTATION

An 52 years old female noticed swelling on left upper gingiva in . In September 2023 , she came to our department because the mass had slowly enlarged. His past medical history included clear cell RCC in his Right kidney in June 2022 with multiple pulmonary metastases afferently present she has been treated by Right sided radical nephrectomy. He had received molecular targeted therapy with sorafenib for 1 years followed by sunitinib, which suppressed the growth of pulmonary metastases. Intra-oral examination showed an 1.5x1.5 cm granulomatous tumor with palpable pulsation in the left upper gingival since 15 days. The lesion enlarged rapidly over 1 weeks , and our patient began to feel local pain . Panoramic radiography revealed resorption of bone of upper gingiva. ,Local excision was done and biopsy specimen of the left upper gingiva had been subjected for histopathologicalexamination which revealed clear cell carcinoma, consistent with the patient's previous history of renal cell cancer . Histologic evaluation revealed the presence of a solid nest of epithelial cells with clear cytoplasm and small,

round hyperchromatic nuclei. A rich vascular network was also noted. Immunoperoxidase testing was positive for CD10 and vimentin and negative for gross cystic disease fluid protein (GCDFP), S-100, HMB-45, muscle-specific antigen, and desmin, supporting the diagnosis of metastatic RCC (Figure 1). She was treated with 20 GY / 5# by intensity modulated radiotherapy technique (Figure 2) to left upper gingiva in Oct 2023 as a palliative radiotherapy approach. Now she is currently on Lenvatinib and is doing well.

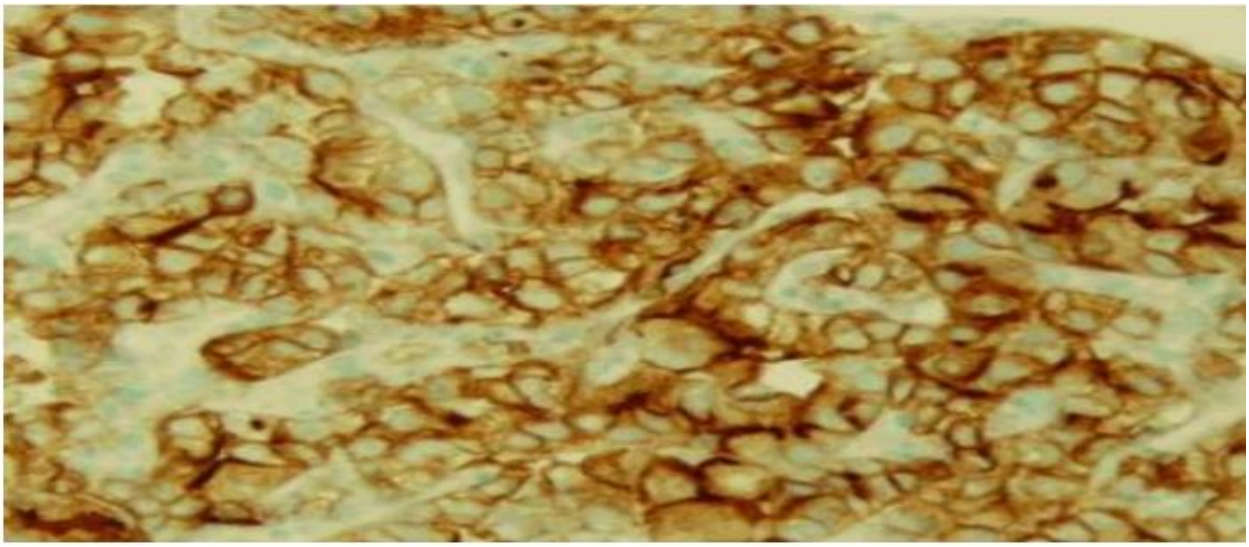

Figure 1: Carcinomatous Cells Are Positive For Vimentin On Ihc

Figure 2: Clinical Presentation

DISCUSSION

Metastatic tumors to the oral cavity are extremely rare. Therefore, existing literature is based largely on sporadic case reports. Possible routes of metastasis to the oral cavity include arterial, venous and lymphatic circulations. In the case of head and neck metastasis

without lung involvement, several theories exist to address a route of dissemination that avoids pulmonary vascular filtration. These include spread via Batson's venous plexus or through the thoracic lymphatic duct. Batson's paraspinal plexus is a valveless, venous system extending from the skull to the sacrum allowing tumor emboli to bypass the pulmonary venous system with minimal resistance resulting in metastasis to the head and neck region in the absence of obvious lung lesions [2]. Reports of RCC to the head and neck region involve the nose, tongue, paranasal sinuses, larynx, mandible, temporal bone, thyroid gland, and parotid glands [3]. The location of metastasis usually dictates the presenting symptoms. Metastatic RCC will often behave similarly to that of the primary renal lesion in terms of morphology and histology. Histologically, differentiating among clear cell tumors with conventional light microscopy can be challenging. It can be especially difficult to distinguish between RCC metastasis and clear cell malignancies of salivary glands. Clear cell carcinomas of salivary gland origin are usually nests of clear cells divided by thin, fibrous connective septa and irregular vascular tissue. Immunohistochemical staining helps in this distinction, with RCC metastasis exhibiting focal cytokeratin positivity (versus minor salivary gland cancers showing diffuse positivity) and a strong reaction for vimentin [4]. Treatment of renal clear cell metastasis to the head and neck is directed mainly toward palliation [5]. Excision has been performed primarily to control pain and prevent bleeding and infection. Azam et al describe surgically debulking a rapidly growing metastatic tongue lesion in order to relieve pain and allow the patient to swallow. They then administered radiotherapy to the oral cavity at a dose of 60 Grays to treat any remaining microscopic disease [6]. Although RCC is traditionally known as a radioresistant tumor, radiotherapy can aid in local symptom control for perhaps a few months [2]. Little data exist regarding the use of systemic therapy in the setting of RCC metastasis to the oral cavity. Kyan and Kato report the surgical resection of a lingual mass followed by the administration of interferon-alpha and interleukin-II without recurrence of disease at 2 years [7]. Still, most patients die within 1 year after detection of head and neck metastasis; therefore, therapeutic decisions should maximize comfort and minimize morbidity considering the poor long-term prognosis at this stage of the disease. Of interest in this patient is whether other measures taken at the time of the initial diagnosis and treatment period may have slowed disease progression or prolonged survival. Certainly, the finding of lymph node involvement portends a poor prognosis with 5- and 10-year survival rates similar to those with systemic metastasis (5–30% and 0–5%, respectively). An extended lymph node dissection has been suggested to benefit patients with early, isolated or microscopic involvement of the nodes. Immunologic therapy following radical nephrectomy in the setting of metastatic disease may improve time to progression in properly selected patients. Prospective trials have demonstrated that, in patients with synchronous metastatic disease, cytoreductive nephrectomy and a systemic cytokine give a distinct survival advantage over those treated with immunotherapy alone (17.4 versus 11.7 months in patients with an Eastern Cooperative Oncology Group performance status of 0–1) [8]. Unfortunately, complete durable responses with systemic therapy are infrequent and the significant toxicity of immunologic agents may limit their use. Finally, newer agents targeting the VEGF pathway such as bevacizumab and sorafenib may provide hope for patients with metastatic RCC. Early trials have shown a prolongation of progression-free survival with the use of these targeted molecular therapies in cytokine-refractory patients [9].

CONCLUSION

RCC has been shown to metastasize to the head and neck region in rare instances. Therefore, the work-up of a new oral or neck lesion in light of a history of RCC should include metastatic RCC as part of the differential diagnosis. The biopsy specimen revealing clear cell carcinoma of the mouth, it is vital to perform immunohistochemical staining to differentiate between metastatic RCC and malignancies of salivary origin. Surgical therapy may be recommended because of its high local control rate and ability to maintain quality of life .If a diagnosis of metastatic RCC is established, additional therapeutic options, including immunotherapy, tyrosine kinase inhibitors, and participation in a clinical trial, should be discussed with the patient despite the poor overall prognosis.

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