Palliation of dysphagia with radiotherapy for exophytic base tongue metastases in a case of renal cell carcinoma

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ABSTRACT

Base tongue involvement is a rare presentation of lingual metastases from renal cell carcinoma. A 48-year-old gentleman was treated with open radical nephrectomy and adjuvant radiotherapy for Stage II Furhman grade I clear cell carcinoma of the left kidney at an outside hospital. He presented metachronously 5 years later with progressive dysphagia and change of voice. Clinicoradiological evaluation revealed a large exophytic mass in the oropharynx with epicenter in the right base of tongue. Metastatic workup revealed widespread dissemination to multiple organs and bone. In view of predominant symptom of dysphagia, base tongue metastasis was treated with protracted course of palliative radiotherapy to a dose of 50 Gy in conventional fractionation over 5 weeks. This resulted in excellent and durable response at the base tongue lesion (till the time of last follow-up). Radiation therapy is an acceptable palliative strategy for advanced lingual metastasis as it produces prompt relief of pain, bleeding, and dysphagia.

Key words: Base tongue, metastases, palliative radiotherapy, renal cell carcinoma

INTRODUCTION

Metastases in the head neck region from renal cell carcinoma (RCC) are seen in less than 15% of patients with metastatic disease. Majority of the times, it is a manifestation of widespread metastases in a known case of RCC, but such lesions can be the initial presentation of the disease. Metachronous presentation after many years of primary treatment is more common than synchronous diagnosis. Primary localizing sites in the head neck region include nodal and soft tissue metastases, sinonasal region, nasopharynx, parotid, larynx, thyroid gland, orbit, and tongue. Lingual metastases on the dorsum, ventrum, lateral border, and tip are more frequently reported than metastases to base tongue. We present here a case of RCC with disseminated metastases including the tongue base.

CASE REPORT

A 48-year-old gentleman was diagnosed as a case of left-sided RCC in June 2004, which was treated with radical nephrectomy and adjuvant radiotherapy at an outside hospital. In October 2006, he presented to our hospital for second opinion in view of progressive metastatic deposits in both the adrenals, lungs, and mediastinum. He was started on interferon (INF-α, 5 MIU daily subcutaneous doses), which he continued till December 2007. Subsequently, he presented with swelling in throat in March 2009. It was biopsied and confirmed to be metastases from RCC. He was advised external beam radiotherapy for the base tongue lesion but refused treatment due to personal reasons. In December 2009, he presented again with increasing difficulty in swallowing and alteration in voice. He was barely able to swallow liquids orally and had lost 2-3 kg of weight. On clinical examination, he had a large (5 × 5 cm) exophytic swelling in the oropharynx with epicenter in the right base of tongue [Figure 1]. It involved the tonsillar...
fossa and adjacent soft palate on right side, crossing midline. Tongue mobility was normal. There was no palpable cervical lymphadenopathy. Computerized tomography (CT) scan of the face, neck, thorax, abdomen, and pelvis was suggestive of widespread visceral and osseous deposits apart from the base tongue lesion [Figure 2]. No adenopathy was noted (which corroborated with secondary from RCC as it is uncommon for large oropharyngeal primary of squamous carcinoma to present without neck nodes). In view of predominant symptom of dysphagia and exophytic growth, he was first planned for palliative radiotherapy with escalating doses followed by Sunitinib. The patient received radiotherapy to a dose of 50 Gy in 25 fractions over 5 weeks with limited portals. Protracted regimen (prolonged fractionated course of radiotherapy over 5 weeks as compared to the most commonly used short course of palliative radiotherapy) was chosen expecting sustained and relatively quicker relief of symptoms. By the end of treatment, he was able to swallow semisolids without difficulty. The base tongue lesion showed significant regression at radiotherapy conclusion [Figure 1]. Subsequently, he was referred to medical oncologist for targeted therapy. Till the time of last follow-up (3 months postradiotherapy), durable response at the base tongue lesion was documented but unfortunately he was yet to start targeted therapy due to financial issues.

**DISCUSSION**

**Clinical presentation**
The kidney is third common primary infraclavicular location of malignant neoplasms metastasizing to head and neck. Lingual metastasis is a relatively rare incidence. Base tongue metastasis occurs even less frequently. Tongue base is a peculiar favorable site for metastases due to its rich vascular supply. Metastases from RCC are also highly perfused predisposing to bleeding. Early lesions may be asymptomatic or present with some discomfort in the throat, while moderate to large size lesions may present with either dysphagia and change in voice (as in the present case) or develop bleeding and pain at the local site. Table 1 enlists the case reports in literature on RCC metastasis to base tongue.

**Diagnostic difficulties and differentials**
The rarity of this bizarre site of metastases can create a diagnostic dilemma. Primary malignant clear cell tumors of the head and neck arising from the salivary, thyroid, or parathyroid glands and secondaries from lung and female genital tract form the diagnostic differentials. Cross-sectional imaging would be helpful for lingual metastases which show high signal due to their vascular nature or occurrence of intralesional hemorrhage.[5]

**Management and outcome**
Management varies depending upon the extent of the primary as well as metastatic disease. Renal cell carcinoma even with metastatic disease has a protracted clinical course and patients survive relatively longer as compared to metastatic disease from other histologies. Hence renal metastatic disease is comparatively treated more aggressively with an intent to contain the disease for relatively longer time and achieve sustained palliation.
Based on the reports in literature, surgical excision is recommended as the primary treatment for base tongue metastases, provided good structural and functional outcome can be achieved.\textsuperscript{[3]} However, prognosis for patients with lingual metastasis of RCC with disseminated disease has been reported to be poor despite aggressive local treatment. The mean interval from diagnosis of tongue metastasis to death was 5.8 months.\textsuperscript{[4]} The aim is primarily to provide relief from dysphagia and pain while preventing bleeding and infection.

Radiation therapy and immunotherapy or immune-chemotherapy for palliation of lingual metastases has produced encouraging results. Contrary to the traditional belief of relative radio- and chemo-resistance of RCC metastases, secondary lingual lesions from RCC have responded remarkably to 5 weeks of protracted radiation therapy as well as to 1 month of IFN-\(\alpha\) therapy.\textsuperscript{[5,6]} Infact, it was concluded by the authors that tongue is a possible sensitive site to IFN-\(\alpha\) therapy as better response as compared to pulmonary, bone, and lymph node metastases was noted.

With regards to the efficacy of radiation therapy for base tongue metastases per se, authors have not come across any report in literature. Considering the possibility of avoiding a major surgical intervention and expecting a better functional outcome, radiation therapy is an acceptable palliative strategy. On the other hand, as compared to IFN-\(\alpha\) palliative radiotherapy produces prompt relief of pain, bleeding, and dysphagia.

**CONCLUSION**

Base tongue metastasis from RCC is a rare but unique clinical entity. It should be considered in the differential diagnosis of malignant tumors with clear cell histologic pattern. Base tongue metastases from RCC are exquisitely responsive to both radiation therapy as well as immunotherapy and form acceptable palliative strategies.

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