



## Skin Metastasis in a case of Oropharyngeal Cancer

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### **ABSTRACT**

Distant metastasis from oropharyngeal cancers usually occur in the lung, liver or bone. We present here a case of skin metastasis from primary cancer of the oropharynx (right tonsil extending up to the soft palate and adjacent base of tongue) in 56 year old male smoker initially staged as T3 N2c M0. After completion of definitive chemoradiation, the patient was in disease free locoregionally but developed secondaries in lung and bone and multiple skin nodules which were confirmed as metastatic deposits. Skin metastasis from oropharyngeal cancers are very rare (about 1%) and need careful evaluation because they portend a poor prognosis.

## KEY WORDS

Oropharyngeal cancer, skin metastasis.

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## *INTRODUCTION*

Head and neck cancers are the one of the most common cancers in eastern part of India. Oropharyngeal carcinomas account for 10% of all head and neck epithelial cancers and are a significant problem in our country. With multimodality treatment options, loco-regional control of HNSSC has improved now a days. However, this has not translated to improved survival due to failure at distant sites.<sup>1</sup> The lung, liver and bone are the usual sites for distant metastasis.<sup>2</sup> Isolated skin metastasis are very uncommon with an incidence ranging from 07% to 2.4%.<sup>2,3,4</sup> Of all patients with oropharyngeal cancers, 8% have dermal metastasis at presentation.<sup>5</sup> It is important for physicians to be vigilant in identifying skin metastasis as they suggest a poor prognosis and should be taken into consideration when the treatment is planned.

## *CASE REPORT*

A fifty six year old Hindu farmer presented to the Radiotherapy OPD with two years history of pain in throat, especially on swallowing, earache, dry cough, recent onset hoarseness of voice and progressive weight loss. On locoregional examination, the patient had a 4 × 3 cm ulcero-proliferative growth involving the right tonsil extending up to the soft palate and adjacent

base of tongue. In addition he had palpable hard, non-tender and fixed level Ib and II lymph nodes in the right and level II lymph nodes in the left side. Biopsy report revealed moderately differentiated infiltrating squamous cell carcinoma from the oropharyngeal growth and metastatic deposits of squamous cell carcinoma from the nodes. There was no evidence of any other disease in the aerodigestive tract or any distant metastasis. The patient was neither diabetic nor hypertensive and had a performance status of 1 (ECOG). He was clinically staged as T3 N2c M0. (AJCC 2009) with a stage grouping of IVB.

The baseline hematological and biochemical parameters revealed no significant abnormality except Hemoglobin 8.9 gm/dl for which he was transfused with 3 units of whole blood. The patient received External Beam Radiation Therapy (EBRT) to a total dose of 70 Gy in 35 fractions over 7 weeks with standard portals with CT simulation along with concomitant chemoradiation with Inj. Cisplatin 100 mg / m<sup>2</sup> on Days 1, 22 and 43 of radiation. Hemogram and renal function were monitored weekly and transfusions given to maintain hemoglobin > 11 gm/dl throughout. The patient completed treatment on time and there were no major toxicities other than grade 2 mucositis. At the completion of treatment the patient had no evidence of disease locoregionally.

He was subsequently followed up in the O.P.D. on a regular basis. After 2 months the patient suddenly developed pain in the right inguinal region for which he was unable to stand properly. On detail clinical examination there were tenderness over the right inguinal region and straight leg rising test was positive but there were no neurodeficits. Incidentally, a firm, non tender 2 × 1.5 cm intradermal swelling was also noted at the right arm of the patient about 5 cms above the elbow joint (*Figure 1*).



**Figure 1 : Skin metastasis above elbow.**

On radiological examination including MRI, it was found that the patient had an extensive metastatic deposit involving the head of the right femur that also obliterated the acetabular cavity. Fine needle aspiration cytology from the dermal nodule revealed metastatic squamous cell carcinoma. There was no other site of metastasis on a  $^{99m}\text{Tc}$  – MDP whole body bone scan. Detailed metastatic workup revealed metastatic deposit on both sides of the lung on thoracic CT scan. However, ENT examination revealed there was no locoregional recurrence.

Palliative Radiotherapy to the femoral head region was started (30 Gy in 10 fractions over 2 weeks) with intravenous bisphosphonates. After one week the patient was better but complained of low grade fever. On examination it was found that the patient developed other intra dermal, firm, non-tender swellings (average size 1.5 × 1.5 cms) over the abdomen (*Figure 2*), chest and back. Cytopathological and histopathological examination from these swellings

revealed metastatic squamous cell carcinoma. He was started on palliative chemotherapy but was lost to follow up after the first cycle.



**Figure 2 : Skin metastasis on anterior abdominal wall, below umbilicus.**

## *DISCUSSION*

The frequency of cutaneous metastasis from internal malignancies varies from 0.7 to 9% of all cancer patients<sup>7</sup>. It was considered to be an uncommon entity in head and neck squamous cell cancers (HNSCC) with an incidence of 1%<sup>4,5</sup>. Though it is general assumption that cutaneous metastasis indicates poor prognosis for the patient, information is lacking regarding the survival and the proper treatment of this group of patients. Berger et al<sup>8</sup> in their study reported that length of survival was approximately three months after skin metastasis become clinically evident in head and neck cancer. There are very few reports in the literature about the skin metastasis from head and neck cancer. Veraldi et al,<sup>9</sup> noted the rarity of skin metastasis from laryngeal

cancers and showed only 12 reported cases in a review of literature.

Loco regional control is the main concern for the treatment of HNSCC. Advances in surgical techniques and chemo radiotherapy schedules have resulted in a significant improvement in loco-regional control rates. This improvement has however not translated to better overall survival rates because of failure at distant sites.<sup>10,11</sup> Improvement in survival rates will be possible by identifying and treating aggressively the subset of patients who are prone to distant failure. It is, therefore, incumbent upon physicians to identify these lesions which will impact future management especially since they have a grave prognosis.

Literature has identified several prognostic factors that have an influence on the incidence of dermal metastasis. A study of 1244 patients with head and neck squamous cell carcinoma who had achieved loco-regional control suggested that the hypopharynx (14%) and nasopharynx (11%) have the greatest frequency of dermal metastasis. The oropharynx (7%) and supraglottis (8%) have an intermediate and the oral cavity and glottis (<1%) have the lowest frequency of dermal metastasis<sup>10,12</sup>.

Skin metastasis are defined as isolated or multiple intradermal collections of tumour cells remote from the primary or loco-regional disease.<sup>2</sup> They present as solitary or multiple, discrete or confluent, dermal or subcutaneous nodules, as described in our case.<sup>3</sup> It is important to differentiate these lesions from extensions from the primary cancer, scar metastasis, metastasis from other primary skin cancers, internal organs and primary cutaneous disorders.<sup>14,15</sup> Dermal metastases can spread by three modalities: direct spread, local spread via dermal lymphatics and distant spread via the haematogenous route.<sup>10</sup> The sites of skin metastasis in HNSCC include neck, chest, scalp, face, lips, axilla, areolas, back, arms and digits; the most common being the neck and chest. The majority of skin metastasis usually occur above the umbilicus, and infra-umbilical skin metastasis, usually portend a very poor prognosis.<sup>11</sup>

Treatment for skin metastasis is inconclusive. Surgical excision has been shown to improve

survival rates in one study.<sup>4,11</sup> However, surgical treatment is not the norm and should only be considered in a few highly selective cases in which the skin metastasis is the only site of disease with no other metastases in the body<sup>13</sup>. In general however, the treatment offered irrespective of the form is palliative. Whatever the nature of the primary lesion, the course of the disease or the treatment(s) administered, it appears that skin metastasis is an equalizing factor for all patient groups in carcinoma of the head and neck; all patients do poorly and succumb rapidly to their disease. Our patient was lost to follow up soon after starting the the palliative treatment of skin metastasis, making it difficult to predict the overall survival, but we report this case owing to its rarity and as a reminder for physicians to be aware and vigilant about the disease entity for its poor outcome.

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