

# Gingival Metastasis: A Rare Case Report

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**Abstract:** *Metastatic tumours of oral cavity are rare and may occur in oral soft tissues, maxilla or mandible. Oral metastasis is a diagnostic challenge for the clinician as they may be misdiagnosed as reactive lesions of oral soft tissues. Most of the metastatic cases reported in the literature have primary tumors located in the lung, breast, kidney, and colon. Herein, a case of gingival metastasis in a 62 year old male patient is discussed wherein the metastasis was identified prior to the primary tumour, adenocarcinoma lung. This article emphasizes on the crucial role of a dentist in identifying metastases that may mimic benign tumours of oral cavity.*

**Keywords:** Lung carcinoma, Metastatic tumors, Gingival metastasis and Oral metastasis

## 1. Introduction

Metastases in most cases depict the end stage in the invasion cascade, which involves dissemination of cancer cells to distant organ sites through the blood or lymphatic system, resulting in a new tumour in other tissues or organs of the body. It is the process of metastasis that results in morbidity and eventual mortality.<sup>1</sup>

The process of cancer metastasis consists of a cascade of events. The final result depends on both the intrinsic properties of the tumor cells and the host response. Since the balance between these two aspects varies among patients, the metastasis is often unpredictable. The primary tumor in most cases are treated by surgical and radiochemical treatments but the metastases, when distributed throughout the body becomes are more arduous to treat.<sup>2</sup>

Oral metastasis produces distressing symptoms that are difficult to relieve and in most cases mis-diagnosed as inflammatory lesions.<sup>3</sup> Biopsy is required for the diagnosis of metastatic tumours in the oral cavity, but when oral metastasis itself is the first presentation, immunohistochemical stains and full body scanning may be necessary to characterize the primary tumor.<sup>4</sup> The case reported here is a lesion mimicking pyogenic granuloma which was diagnosed as lung cancer metastasizing to the gingiva which makes it unique.

## 2. Case History

A 61 year old male patient reported with a chief complaint of intraoral swelling on gums in upper left back tooth region since 1 month. The Swelling had been increasing in size with occasional bleeding on brushing. The patient was a chronic smoker since 35years. Medical history revealed stroke 6years back causing Left Hemiparesis and Left UMN Facial palsy. He was under Antiplatelet therapy (Ecospirin and Clopidogrel) since then. A recent loss of weight and appetite was informed by the patients bystander.

Intraoral findings revealed a reddish-pink dumbbell shaped pedunculated mass involving the Interdental papilla of 24 and 25 measuring buccally: 1.8cm x 1.2cm x 1cm and

Palatally: 0.9cm x 0.7cm x 0.5cm [Fig1: Intra-oral view showing the pedunculated gingival swelling]. The lesion was asymptomatic and firm in consistency with superficial ulcerations. Hard tissue examination showed grade II mobility of 24. Further radiographic examination revealed vertical bone loss in relation to distal side of 24 and horizontal bone loss with grade III furcation involvement of 26 [Fig 2: Intraoral periapical radiograph showing vertical bone loss in 24 and grade III Furcation involvement of 26 ].

On extraoral examination, enlarged, palpable, tender left submandibular lymph nodes were noted. Based on clinico-radiological findings, differential diagnosis of reactive lesion such as pyogenic granuloma and peripheral giant cell granuloma were made. Routine blood examination revealed complete blood count within normal limits with raised ESR of 80mm/hr.

After initial therapy which included oral prophylaxis, review after 2 weeks showed rapid increase in size of the lesion. Hence excision biopsy of mass and extraction of 24 was done [Fig 3: Biopsy of lesion and extraction of 24 was done]. Histopathological examination of lesion showed neoplastic cells (squamous and glandlike) proliferating in a ductal pattern with an eosinophilic coagulum, suspecting adenosquamous cell carcinoma [Fig 4: Histological section, showing squamous and gland like cells proliferating in a ductal pattern with an eosinophilic coagulum].

Probability of gingival metastasis from a primary malignancy was considered in view the following findings :

- Recent loss of weight and appetite
- Elevated ESR (80mm/hr)
- H/P diagnosis of Adenosquamous cell carcinoma

Patient was referred to Radiodiagnosis department, to rule out any primary malignancy. Chest X-ray [Fig 5: Chest X-ray ] revealed an ill-defined area of increased density in the right upper lobe. CECT (Contrast enhanced computed tomography) [Fig 6: Active disease foci noted in the right pulmonary lesions, the right hilar and mediastinal lymph node lesions and multiple skeletal lesions] of Brain, Neck, Chest and Abdomen showed:

- Soft tissue irregular enhancing focal lung parenchymal

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lesion in the right upper lobe. Prominent right hilar and mediastinal lymphadenopathy –likely primary pulmonary malignancy with metastatic lymphadenopathy.

- 2) Numerous bone lesions involving the vertebrae, ribs, pelvic bones-predominantly lytic metastases were also noted.
- 3) Chronic infarct with gliosis-right frontoparietal lobes

<sup>18</sup>F-FDG (Fluorodeoxyglucose) whole body high definition PET/CT (Positron emission tomography-computed tomography) showed FDG concentrating active disease foci noted in the right pulmonary lesions, the right hilar and mediastinal lymph node lesions and multiple skeletal lesions.

Palliative therapy was given to alleviate pain. Later, a combination therapy of radiation and chemotherapy was suggested. Unfortunately, the patient succumbed to his disease before reassessment and treatment.

### 3. Discussion

Distant metastasis to the oral region are less common. Gingival metastasis can originate from several primary tumours, including lung, breast, kidney, bone, colorectal, adrenal, and liver.<sup>5</sup> Hirshberg<sup>6</sup> reported 157 cases of metastasis to the oral soft tissues, among which the lung was the most common primary site. The gingiva was the most affected followed by the tongue. A male predilection with a ratio of 1.6:1 (male/female) was noted. In most of the patients, distant metastases occur in the later stage of the disease.<sup>7</sup>

We report a case of 61-year-old man with an adenocarcinoma lung who developed an superficially ulcerated pedunculated mass in the upper left back tooth region involving the interdental papilla. The patient was unaware of the lung tumour during the initial visit. The metastasis to oral soft tissues develop as rapidly and expansive growing mass which in the process tend to ulcerate, bleed and pain. Further, these lesions often resemble reactive lesions such as the pyogenic granuloma, peripheral giant cell, haemangioma or fibroma, and the final diagnosis depends on the biopsy.<sup>8</sup>

Pathogenesis of oral metastasis although unclear, is thought to be a multistage process in which cells detach themselves from the primary tumor and transported by the lymphatic system or blood vessels. In oral soft tissues, chronically inflamed mucosa, especially gingiva, has rich capillary network, which can trap the malignant cells and cause metastasis.<sup>2</sup> The lung is the most common primary site in males, affecting oral mucosa (31.3%) and the breast in females, affecting soft tissues (24.3%), respectively.<sup>3</sup>

In most of the patients primary tumours are detected prior to the metastatic spread to the oral cavity.<sup>9</sup> But in our case, the patient was asymptomatic and was not aware of the primary lung cancer. Gingival mass which was progressively increasing in size was the only initial clinical finding at the time of presentation, which led to the diagnosis of lung cancer. Primary tumor site was found to be lungs, and CECT and PET/CT demonstrated secondaries in the

vertebrae, ribs and pelvic bones. The oral cavity metastases could have been possibly due to the secondary metastatic colonization. Moreover, histopathological examination of the gingival mass showed neoplastic cells (squamous and gland like) proliferating in a ductal pattern with an eosinophilic coagulum, suspecting adenosquamous cell carcinoma.

The treatment and prognosis is primarily based on the site of origin, degree of metastatic spread and the health status of patient. In most cases systemic chemotherapy and/ or radiotherapy are the choice of treatment. Oral metastatic tumors are usually associated with metastasis to the multiple organs and associated with poor prognosis.<sup>3</sup> The average survival period of lung cancer patients with gingival metastasis is only 4 months as the prognosis is very poor. Gingival metastasis is treated with surgical excision under local anaesthesia which provides rapid relief of symptoms and improves dental function.<sup>10</sup>

### 4. Conclusion

As the oral soft tissue metastasis is rare, diagnosis of metastatic lesions in the oral cavity is challenging, both to the clinician and the pathologist. In most cases these oral metastatic lesions mimic benign lesions, which could be the metastasis from malignant tumors. Thorough clinical and histopathological assessment should be carried out for definitive diagnosis. Early detection of gingival metastasis and necessary treatment are needed to improve the quality of life of these patients. This article thus emphasizes on detailed dento alveolar examination and early diagnosis for finding the primary focus of metastatic tumor if any, which will help in a better prognosis of patients.

### References

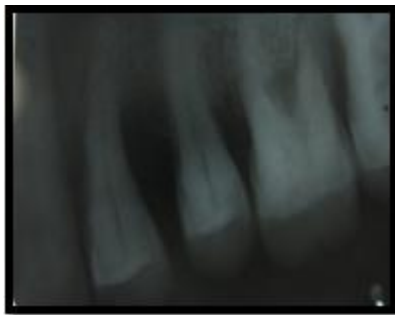
- [1] Allon I, Pessing A, Kaplan I, Allon DM, Hirshberg A. Metastatic Tumors to the Gingiva and the Presence of Teeth as a Contributing Factor: A Literature Analysis. *J Periodontol.* 2014 ;85(1):132–9.
- [2] Rusciano D, Welch D R and Burger M M. Cancer Metastasis: Invitro and Invivo Experimental approaches. *Laboratory techniques in Biochemistry and molecular biology: Vol 29.* 2000. Elsevier
- [3] Moharil R, Khandekar S, Dive A. Metastatic lung malignancy to mandibular gingiva. *Indian J Dent Res.* 2010;21(3):449.
- [4] Kanth MR, Ravi A, Raghavendra Y, Bai JKS, Babu R. Metastasis of Lung Adenocarcinoma to the Gingiva: A Rare Case Report. *Iran J Med Sci.* 2015;40(3):287-291.
- [5] Hou Y, Deng W, Deng G, Hu L, Liu C and Xu L. Gingival metastasis from primary hepatocellular carcinoma: a case report and literature review of 30 cases. *BMC Cancer* (2019) 19:925
- [6] Hirshberg A, Leibovich P, Buchner A. Metastases to the oral mucosa: analysis of 157 cases. *J Oral Pathol Med.* 1993 ; 22(9):385–90.
- [7] Villa A, Mariani U and Villa F. Oral metastasis of lung cancer: A challenge for the clinician. *Oral Maxillofac Surg* (2012) 16:133–135
- [8] Jaguar GC, Prado JD, Soares F, Alves FA and Osorio C A T. Gingival metastasis from non-small cell

undifferentiated carcinoma of the lung mimicking a pyogenic granuloma. Oral oncology extra 2006;42:36-39

- [9] Van der Waal RIF, Buter J, van der Waal I. Oral metastases: report of 24 cases. Br J Oral Maxillofac Surg. 2003; 41(1):3–6.
- [10] Gargouri I, Hergli BW, Aissa S, Kanoun-Belajouza S, Hayouni A, Garrouche A, et al. Lung Adenocarcinoma with Gingival Metastasis. Eur J Case Rep Intern Med (2018)10:1.



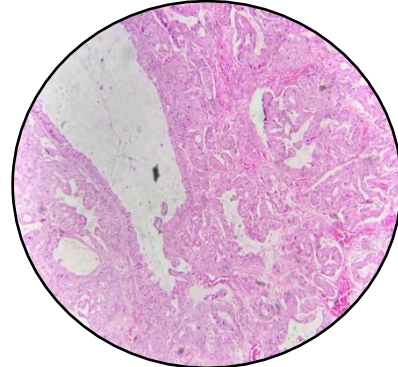
**Figure 1:** Intra-oral view showing the pedunculated gingival swelling



**Figure 2:** Intraoral periapical radiograph showing vertical bone loss irt 24 and grade III Furcation involvement of 26



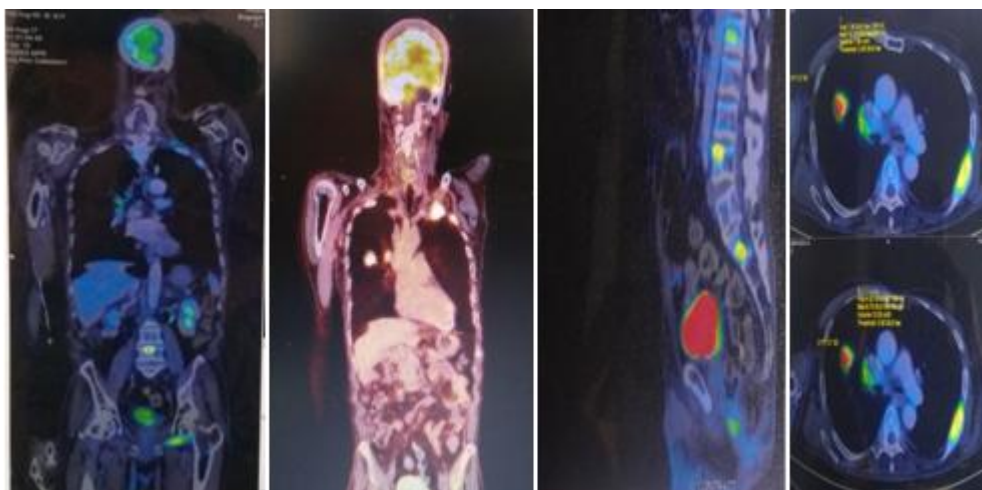
**Figure 3:** Biopsy of lesion and extraction of 24 was done



**Figure 4:** Histological section of the biopsied lesion, demonstrating squamous and glandlike cells proliferating in a ductal pattern with an eosinophilic coagulum



**Figure 5:** Chest X-ray



**Figure 6:** Active disease foci noted in the right pulmonary lesions, the right hilar and mediastinal lymph node lesions and multiple skeletal lesions.