



## CASE STUDY

### MANDIBULAR METASTASIS- INITIAL MANIFESTATION OF HEPATOCELLULAR CARCINOMA

\*Shruti Chandrakar, Dr. Anitha Padmanabhan, Dr. MilindV Patil and Dr. Shruti Chandrakar

Lokmanya Tilak Municipal Medical College, India

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#### ABSTRACT

Oral metastatic tumors are uncommon and account for approximately 1% of oral malignant neoplasms. Here we report a case of metastasis to the mandible. The patient was a 74-year-old male who presented with left mandibular swelling since 3 months. CT scan- revealed a 8x6x4 cm growth eroding and expanding the mandible. Hemimandibulectomy was done and histopathology was suggestive of adenocarcinoma. The parotid gland was unremarkable. Subsequently ultrasonography abdomen revealed a mass in liver and further workup was suggestive of hepatocellular carcinoma.

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## INTRODUCTION

Oral metastatic tumors are uncommon and account for approximately 1% of oral malignant neoplasms. Metastatic tumors to the jaw in adults most often originate from breast, lung, large bowel, prostate, kidney, thyroid, liver, adrenal or testis. Metastatic involvement occurs most commonly in mandible (80%), followed by maxilla (15%) & in 5% cases both are involved. The primary site is silent in most cases. Oral metastasis indicate incurable metastatic disease.<sup>(1)</sup>The diagnosis of a metastatic lesion in the oral region is challenging, both to the clinician and to the pathologist. However, these tumors are of great clinical significance, as their appearance may be the first indication of an undiscovered malignancy at a distant primary site, or the first evidence of dissemination of a known tumor from its primary site.

### Case report

A 74 yr old male presented with swelling in the left mandibular region since 3 months (Figure 1). CT scan revealed 8x6x4 cm growth eroding and expanding the mandible (Figure 2). Hemimandibulectomy was done grossly the specimen was well circumscribed, grey white tumour measuring 6x6x4 cm.(figure 3) Microscopy revealed a tumor comprising of large cells arranged in a trabecular and glandular pattern.

\*Corresponding author: Shruti Chandrakar,  
Lokmanya Tilak Municipal Medical College, India.

The cells had abundant eosinophilic granular cytoplasm, moderately pleomorphic nuclei and prominent nucleoli suggestive of adenocarcinoma. (Figure 4 a,4b,4c) However the histology was not suggestive of primary mandibular or salivary gland tumour. Immunohistochemistry was performed which was positive for cytokeratin (Figure 4d). Although on histology the diagnosis of hepatocellular carcinoma was favoured. Subsequently ultrasonography abdomen revealed a mass in liver suggestive of hepatocellular carcinoma and developed jaundice after 1 month post-surgery

## DISCUSSION

Most metastatic tumors to the oro-facial region are seen in patients aged between 40-70 years. (Hirshberg *et al.*, 1994; van der Waal *et al.*, 2003) In younger patients, metastases is common in jaw bones compared to soft tissues. Equal gender distribution is observed in jawbone metastases and a male to female ratio of 2:1 in oral soft tissues. Hirshberg *et al.* (2008) studied oral metastasis in 673 cases and found that the most common sources of metastatic tumors to the oral region are primary cancers from the lung, breast, kidney and bone. The breast is the most common primary site for tumors that metastasize to the jawbones, whereas the lung is the most common source for cancers that metastasize to the oral soft tissues. Rajappa *et al.* (2005) reported 2 cases of oral metastasis and in the review of literature they observed that the jawbones, particularly the mandible were more frequently affected than the oral soft tissues at a ratio of 2:1. (Rajappa *et al.*, 2005)

Metastatic lesions may mimic odontogenic infections and other disease conditions leading to late diagnosis by the unwary clinician (Clausen and Poulsen, 1963). However, Hirshberg A *et al.* (2008) in a study of 673 cases found that in 24% of patients, the metastatic lesion in the oro-facial region may be the first indication of an undiscovered malignancy at a distant site (Hirshberg *et al.*, 2008).



Figure 1. 74 yr old male c/o swelling in the left mandibular region since 3 months

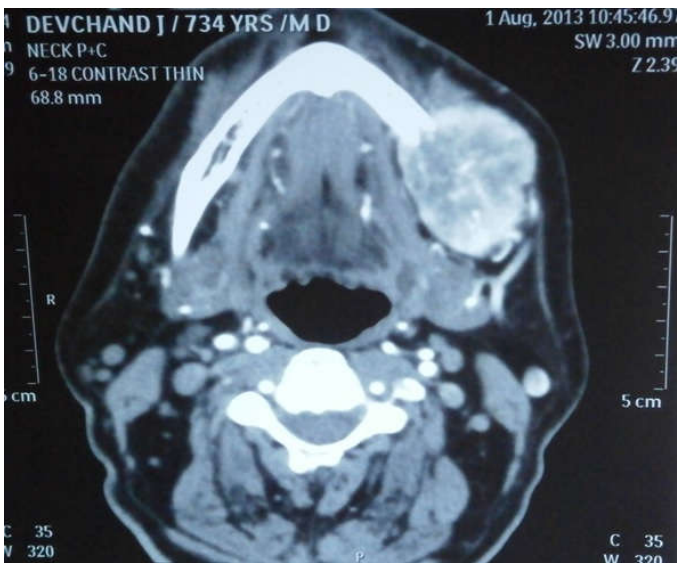


Figure 2. CT scan- 8x6x4 cm growth eroding and expanding the mandible



Figure 3. Grossly the specimen is well circumscribed , grey white tumour measuring 6x6x4 cm.The arrow showing normal salivary gland

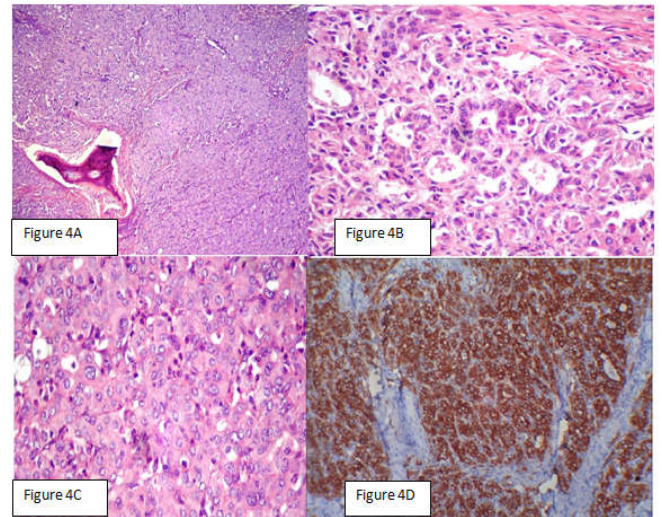


Figure 4A. H & E 100 X- Tumour  
 Figure 4B. H & E 400 X Glandular Pattern  
 Figure 4C. H & E 400 X Trabecular Pattern  
 Figure 4D. Cytokeratin Positivity

Rajappa *et al.* (D’Silva *et al.*, 2006) studied 114 cases of metastatic jaw tumors and found that the most common jaw symptom was pain followed by swelling. (D’Silva *et al.*, 2006) While in our case the patient presented with a painless swelling. As the clinical and radiographic presentation of a metastatic lesion can often be deceiving there lies the possibility of a misdiagnosis of a benign or malignant process. Therefore in such cases, especially in patients with a history of a malignant disease, biopsy is mandatory.

**Conclusion**

Metastatic tumors to the oro-facial region are uncommon and may occur in the oral soft tissues or jawbones. The clinical presentation of metastatic tumors can be variable, which may lead to erroneous diagnosis or may create diagnostic dilemma. Therefore, they should be considered in the differential diagnosis of inflammatory and reactive lesions that are common to the oral region. Once a metastatic tumor is suspected, an appropriate referral for an oncologic work up is required. Advanced imaging, scintigraphy and regional investigations based on the suspected source should be done to find out or confirm the origin and identify any other areas of secondary spread as these lesions are associated with a poor prognosis, early detection is of extreme importance.

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