

**Case Report****A Case of Maxillofacial Metastasis of Hepatocellular Carcinoma**

Authors

**Dr Aditi Tanwar<sup>1\*</sup>, Dr Kanika Sharma<sup>2</sup>, Dr Deni Gupta<sup>3</sup>, Dr Asit Arora<sup>4</sup>,  
Dr Ganesh Ch. Subudhi<sup>5</sup>**

<sup>1</sup>Junior Consultant, Radiation Oncology, Dharamshila Narayana Superspeciality Hospital, Delhi, India

<sup>2</sup>Senior Consultant, Radiation Oncology, Dharamshila Narayana Superspeciality Hospital, Delhi, India

<sup>3</sup>Senior Consultant, Medical Oncology, Dharamshila Narayana Superspeciality Hospital, Delhi, India

<sup>4</sup>Senior Consultant, Gastrointestinal Oncology, Dharamshila Narayana Superspeciality Hospital, Delhi, India

<sup>5</sup>DNB Resident, Medical Oncology, Dharamshila Narayana Superspeciality Hospital, Delhi, India

\*Corresponding Author

**Aditi Tanwar**

Radiation Oncology, Dharamshila Narayana Superspeciality Hospital, Vasundhara Enclave, Delhi-110096,  
India

**Abstract**

*Hepatocellular carcinoma (HCC) is the most common primary malignancy of the liver. Its incidence is increasing and has a very high mortality rate 1. It may be asymptomatic at presentation or may present with florid metastasis. Here we report a case of a 68 year old gentleman who presented with swelling and numbness on right side of the face and bleeding from right ear following extraction of tooth. Investigations revealed a locally advanced masticator space lesion positive for malignant cells. PET CT scan revealed a FDG avid hypoattenuating SOL in liver which on further investigations was found to be the primary HCC metastasizing to maxillofacial region.*

**Keywords:** maxillofacial, hepatic, metastasis, adenocarcinoma.

**Introduction**

HCC is a malignancy of the hepatocytes. Commonly discovered either during routine screening or when symptomatic because of their size or location. The lungs, diaphragm, abdominal lymph nodes, and bones are the most frequently affected extrahepatic sites<sup>2,3</sup>. Metastasis to the maxillofacial region is very rare<sup>4</sup>. Presenting symptoms can vary from pain, lethargy, hepatic encephalopathy, variceal bleeding, anasarca, jaundice, ascites, diarrhea, paraneoplastic symptoms, cutaneous manifestations, and abnormal laboratory values<sup>7</sup>. But sometimes the

presentation can be a manifestation of the mass effects of the metastasis. Like in our case where the parotid swelling was the first symptom noted in an otherwise silent HCC.

**Case Report**

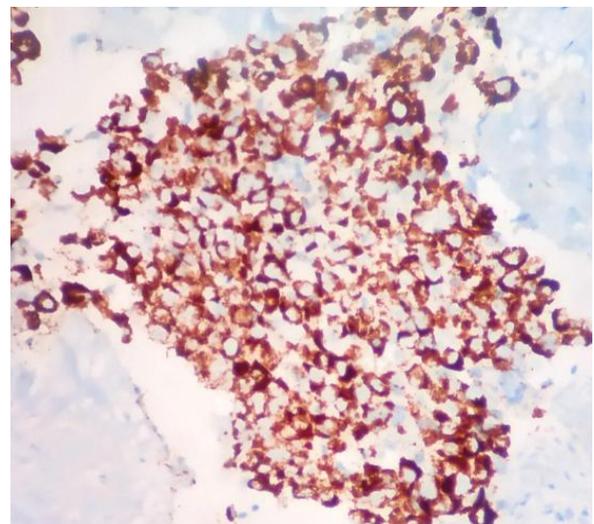
A 68 years old gentleman presented with swelling and numbness over right side of the face for 1 week, and bleeding from right ear following extraction of tooth. On examination there was a diffuse hard swelling in right pre-auricular region with no palpable intra oral lesion or lymphadenopathy. CEMRI revealed a 4.5cm x

6.1cm x 6.1cm large heterogeneously enhancing mass lesion in right masticator space infiltrating the ramus and condyle of the right hemimandible, also eroding the posterior wall of right maxillary antrum. It extended superiorly into skull base & also the right temporo mandibular joint . FNAC suggested a Poorly differentiated Adenocarcinoma with IHC revealing ck, CD-138, CD-38 expression .CECT Thorax & upper abdomen revealed a lobulated outline and subtle hypodensity in segment IV A of liver but USG whole abdomen suggested grade II fatty changes in liver. WBPETCT:5.2 x 5.6 x 5.9cm FDG avid soft tissue mass lesion in right masticator space extending from base of skull to right submandibular region – superiorly infiltrating right masseter muscle and right ITF muscles upto base of skull; laterally infiltrating mandible. An FDG avid node in right cervical level III measuring 0.6cm - metastatic.

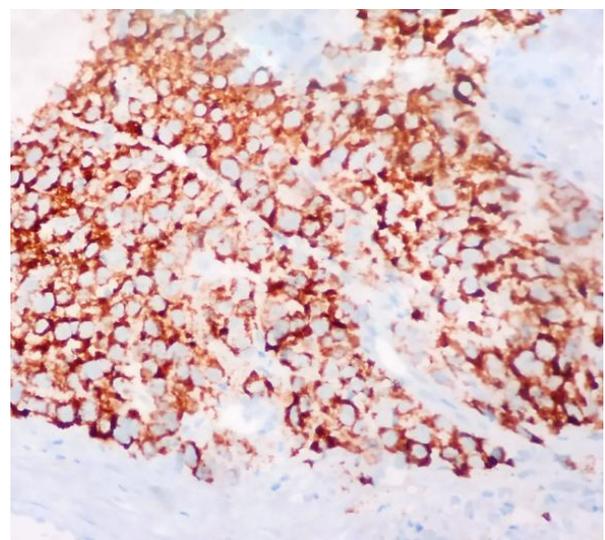
The patient was deemed inoperable in view of base of skull involvement & After multimodality discussion the patient was planned for neoadjuvant chemotherapy based on Nanoxel & Carboplatin. He received two cycles of Nanoxel & carboplatin based weekly chemotherapy. In view of progression of disease ,the patient then considered for radiation therapy to face and neck .A re staging WBPETCT performed for interim evaluation revealed anatomical progression in primary malignant lesion carcinoma right masticator space and 2 FDG avid hypoattenuating SOL's in segment VIII of liver measuring upto 1.6cm. CT guided FNAC from liver lesion which showed features compatible with adenocarcinoma and possibility of HCC could not be ruled out .Serum AFP:>40,000. Hep par 1 antibody was found positive in both masticator space swelling and the liver lesion<sup>15-16</sup>. A retrospective review of the prechemotherapy PET CT revealed a hypoattenuating lesion in the liver in the background of a cirrhotic liver. Patient was given palliative radiation to the mandibular lesion and was started on systemic therapy for HCC.



**Figure 1:** PET CT image showing liver lesion and maxillofacial lesion.



**Figure 2:** Positive Hep par staining of maxillofacial lesion.



**Figure 3:** Positive Hep par staining of liver lesion.

## Discussion

HCC remains a global health concern. It develops in an established background of chronic liver disease in majority of the cases. Hepatitis C (HCV), hepatitis B (HBV), aflatoxin B1, and alcohol use are the chief etiological agents for HCC<sup>8</sup>. HCC presents with metastasis in 50% of the cases.. Extrahepatic metastasis of hepatocellular carcinoma is relatively common. The lungs, abdominal lymph nodes and bones are the common sites of metastasis. Metastasis to the oral cavity and jaws is rare<sup>2-4</sup>.The clinical presentation of HCC can vary from being an incidental finding or presenting with florid symptoms related to mass effect or metabolic disturbances. But as in our case the presentation can be completely related to the mass effect at the metastatic site in an otherwise silent HCC.

The pathogenesis of distant metastasis of HCC to the head and neck region still remains a subject of investigation but the most common route is the spread via the hepatic veins to caval venous system through the pulmonary circulation and then into arterial vessels supplying the head and neck. The other most proposed explanation is by retrograde spread through the prevertebral and vertebral venous plexus. Raised intra-abdominal pressure can squeeze the tumor cells into the prevertebral and vertebral venous plexus, which communicate at the foramen magnum with the venous systems of the skull base as the cavernous sinus and pterygoid plexus<sup>5,6</sup>

Although rare but there have been cases where HCC has metastasized to oral cavity or the salivary gland region. Pires et al. reported a case of hepatocellular carcinoma metastasizing to the anterior mandibular gingiva<sup>4</sup>. Ramirez et al. reported a case of isolated gingival metastasis from hepatocellular carcinoma<sup>9</sup>. Oida et al. reported a case of HCC with metastasis to the pharynx<sup>10</sup>. A few cases have been reported where HCC has metastasized to the parotid gland<sup>11-14</sup>.

## Conclusion

Hence a complete metastatic evaluation should be done in all the cases and any suspicious lesion

should be ruled out pathologically.HCC can present with skip metastasis to the head and neck region. Hence in patients presenting with malignant lesion with suspicious solitary liver lesion should exclude a hepatocellular carcinoma ,especially with the availability of specific IHC markers in such unique presentation.

## Statement of ethics

The patient has given their written informed consent to publish his case.

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