

Isolated metastasis of the hepatocellular carcinoma to the mandibular condyle without evidence of any other metastatic sites: a case report

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## **Abstract**

Oral region metastasis of hepatocellular carcinoma (HCC), the most common primary tumor of the liver, is rare and may occur in the mandibular body region. We present here a rare and interesting case of HCC metastasis to the mandibular condyle without any other extrahepatic metastatic sites of a 59-year-old man. This finding suggest that incidental extrahepatic lesions in the more uncommon sites should be viewed less confidently as potential metastases if metastatic disease in the more common sites is not seen.

Keywords: Isolated metastasis; Hepatocellular carcinoma; Mandibular condyle

## **Case report**

A 59-year-old man was referred to our hospital complaining of a progressive painful swelling of the right preauricular region and limitation of mouth opening. The patient first noticed some occasional pain within the right temporomandibular joint (TMJ) three months previously. The patient presented with a history of HCC in hepatitis C virus infection, which was diagnosed and treated three years previously. He had received percutaneous ethanol injection and transcatheter arterial chemoembolization. He was periodically followed by physical examination and appeared free of disease at the time of presentation. Additional medical history included diabetes mellitus controlled with the injection of insulin.

Clinical examination revealed a diffuse and firm swelling of the right preauricular region without pain on palpation. His maximum incisal opening was 2 cm. Intraoral examination revealed full dentition in good repair with excellent hygiene and normal oral mucous membrane. Laboratory data showed anemia, a bleeding tendency, and decreased liver function. The level of the hepatic tumor marker alpha-fetoprotein was 319 ng/ml, and the level PIVKA-II was 142 AU/ml. Panoramic radiograph showed an osteolytic area in the right mandibular condyle (Fig. 1). Computed tomography (CT) revealed an approximately 3×3 cm low density area, which destroyed the medullar and cortical portions of the right mandibular condyle (Fig. 2). Positron emission tomography combined with CT (PET-CT) imaging using 18-flouro-2-deoxy glucose (FDG) demonstrated an isolated focus of severe FDG uptake in the right lateral face region and this area corresponded to the right mandibular condyle (Fig. 3). The SUV for this lesions was 4.9. No other isolated foci were determined. An open biopsy of the lesion was performed from the right mandibular condyle and revealed hepatocellular carcinoma. The patient received radiation therapy (2 Gy/day for 2 weeks) and chemotherapy (UFT 300 mg/day and cisplatin 20 mg×2 times/week for 2 weeks) and is being followed by the oncology service for 1 year.

## **Discussion**

In the present case, an osteolysis with erosion of the cortical bone in the slightly expanded right mandibular condyle was noted in the radiographic appearance. This finding indicates that metastasis of HCC occurs not to the synovial site of the TMJ but within the mandibular condyle.

Metastatic deposits are known to have a predilection for bone marrow spaces<sup>1</sup>. However, the mandibular condyle has less bone marrow compared with the mandibular body. Further, the blood supply to the mandibular condyle differs from that to the mandibular body<sup>2</sup>. Although these anatomical peculiarities were noted as a reason for the rarity of metastasis to the condyle, the exact mechanism of metastasis to the mandibular condyle is not well understood.

Radical operation for metastatic HCC is controversial because the prognosis of the patients with extrahepatic metastases is very poor<sup>3</sup>. The 3-year survival rate and median survival period are approximately 40% and 16.6 months, respectively<sup>4</sup>. Therefore, palliative therapy such as radiotherapy, chemotherapy or immunotherapy can be used for pain relief and prolonging life<sup>3</sup>. In the present case, the patient undertook chemo-radiotherapy according to his will and the therapy was effective for pain and trismus at the present time.

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### **Figure legends**

Fig.1. Panoramic radiograph showing an osteolytic area in the right mandibular condyle.

Fig.2. Coronal CT scan of the temporomandibular joint shows a large mass invading the lateral pterygoid muscle.

Fig.3. <sup>18</sup>F-FDG-PET image shows the tumor in the right side of the mandibular condyle.

Fig.1



Fig.2



Fig.3

