Original Article

A Clinical and Radiographic Study of Malignant Tumors Metastatic to Mouth and Jaws


Dept. of Oral Radiology, Okayama University Dental School, Okayama, Japan
(Director : Prof. Kanji KISHI)

(Received : Nov. 1, 1988, Accepted : May 8, 1989)

Key Words: Metastatic tumor, Mouth and jaw region, Radiographic diagnosis

Summary

This is a retrospective study that reviewed 235 malignant cases of the oral and maxillo-facial region in Okayama University Hospital attached to Dental School between April 1982 and March 1988, of these it was found 6 cases of metastatic tumors to the mouth and jaws from a distant area. Malignant tumors of the lung provided the largest number of mouth and jaw metastasis in our series, the appearance of the lesions was as that of adenocarcinomas. Six patients were ranging in age from 42 to 82 years, and 3 were males and 3 were females. The most frequent symptoms observed were swelling and pain. Metastasis to the jaw bones were found predominantly in the mandible, and metastasis to the oral soft tissue occurred in two cases. Metastasis to the mandibular molar region radiographically showed central bone destruction, and metastasis to other regions showed peripheral bone destruction. Biopsy and radionuclide examinations were very useful for diagnosis of the metastatic tumors to the oral and maxillo-facial region.

Introduction

Metastasis to the oral and maxillo-facial region from distant sites are said to be comparatively rare\(^1\text{-}^3\). Furthermore, it is difficult to recognize them for some reasons, namely 1) They produce nonspecific signs and symptoms, 2) radiographic changes may be minimal or absent and are often nonspecific, and 3) no primary lesion may not be found after exhausting all available diagnostic aids\(^3\text{-}^4\).

The aim of this study was to review the clinical and radiographic features of 6 metastatic cases of malignant tumors to the
mouth and jaws.

**Materials and Methods**

Of all 235 malignant cases we observed during 1982 to 1988 at Okayama University Hospital attached to Dental School, six cases of metastatic malignant tumors of the mouth and jaws from distant primary sites, which fulfilled the following criteria used by Meyer and Shkler\(^1\), were reviewed.

1. A proved primary tumor with histologic confirmation and, whenever possible, with roentgenographic supportive evidence.
2. Maxillary, mandibular, or mucosal metastasis with histologic confirmation, and with roentgenographic evidence if the bone was involved.
3. Histologic correlation of the metastatic oral region with the primary lesion.
4. When the primary lesion was anatomically near the metastasis, direct extension had to be ruled out by a wide, clear margin around the primary site, with no tumor tissue present between the two foci.

According to the individual analysis of each case, the subjects were reviewed by the following items: the clinical, histopathological and radiographic features. The role of radionuclide examination was also evaluated in three cases.

**Results**

1. **Clinical features**

Of all 235 malignant tumor cases in the oral and maxillofacial region, metastasis to the mouth and jaws occurred in 6 cases; 2.5 per cent. An outline of these 6 cases is shown in Table 1.

The six patients were ranging in age from 42 to 82 years. 3 were males and 3 were females.

In three cases, the mouth and jaw metastasis were discovered before the primary lesion.

The most frequent symptom in our cases was painful swelling. In one case of mandibular metastasis (Case 1), paresthesia at lower lip was present. Another case of mandibular metastasis (Case 3) involved the condyle, and pathologic fracture was occurred there, causing trismus.

Of these six cases, three cases involved

<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Sex</th>
<th>Clinical symptom</th>
<th>Location</th>
<th>Primary organ</th>
<th>Histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>82</td>
<td>M</td>
<td>painful swelling</td>
<td>molar-ramus mandibular bone</td>
<td>lung</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>2</td>
<td>74</td>
<td>F</td>
<td>painful swelling</td>
<td>molar-ramus mandibular bone</td>
<td>lung</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>3</td>
<td>52</td>
<td>F</td>
<td>painful swelling</td>
<td>ramus-condyle mandibular bone</td>
<td>liver</td>
<td>Hepatocellular Carcinoma</td>
</tr>
<tr>
<td>4</td>
<td>72</td>
<td>M</td>
<td>painful swelling</td>
<td>1–3 gingiva alveolar bone</td>
<td>lung</td>
<td>Large cell Carcinoma</td>
</tr>
<tr>
<td>5</td>
<td>70</td>
<td>M</td>
<td>painless swelling</td>
<td>4–3 gingiva alveolar bone</td>
<td>lung</td>
<td>Adenocarcinoma</td>
</tr>
<tr>
<td>6</td>
<td>42</td>
<td>F</td>
<td>painless swelling</td>
<td>1–6 gingiva</td>
<td>genu</td>
<td>Malignant fibrous histiocytoma</td>
</tr>
</tbody>
</table>

H.C.C.: Hepatocellular carcinoma
L.C.C.: Large cell carcinoma
M.F.H.: Malignant fibrous histiocytoma