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METASTATIC CARCINOMA OF ORAL CAVITY

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국 문 초 록

구강 및 악골에 생긴 전이 암종

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구강내에 발생하는 암종은 원발성으로 나타나는 것이 보통이지만 신체내 다른 부위의 원발성 암종에 의해 이차적으로 전이되기도 한다.

Clausen과 Poulsen에 의하면 원발성 암종중에서 breast, lung, kidney, thyroid의 순으로 구강내 전이암종을 많이 나타내는 것으로 알려져 있다. 문헌에 의하면 구강 및 악골에 발생한 전이암종 중에서 약 70%가 adenocarcinoma이며 주로 혈행적(hematogenous) 전이를 하는 것으로 알려져 있다. 이때 전이는 일차적으로 악골내에, 이차적으로 연조직에 전이되며, 이로인해 발생한 악성 전이 암종은 구강내에 발생하는 악성종양의 약 1%에 해당한다. 그러나, 실제로 이의 발견이 어려운 것은 악골에 대한 일상의 검사가 이루어지지 않으며 환자 자신이 특별한 증상을 호소하지 않기 때문이다.

본 교실에서는 문헌상 빈도수가 적은 gall bladder cancer와 pancreatic tumor에서 전이된 암종이 특이하게 악골내에서는 나타나지 않고 연조직에만 발생하였기에 이에 보고하는 바이다.

INTRODUCTION

The majority of the carcinoma of mouth and jaws are primary in origin. Occasionally, however, malignant oral tumors occur from the other primary tumors by metastasis. Clausen and Poulsen[1] had reviewed the location of the primary lesion, and in this literature, such organs as the breast, lung, kidney, thyroid commonly metastasize to bone. Geschickter and Copeland[2,5] estimate that approximately a half of all carcinomas of the breast, prostate, kidney, and lung produce bone lesions before the termination of the disease. This means that the condition of the jaw metastasis is not rare as one led to believe. But this incidence is very low because an examination of the jawbones is not a part of routine technique, and the patients are often symptomless.

The metastatic tumors are generally spread into the bone marrow via the blood stream[3,4]. Tumors metastatic to the oral mucosa are exceedingly rare, and metastatic tumors are found predominantly in the jawbones, especially mandible, and involved secondarily in the oral mucosa by extension from the metastatic focus in the jaws[1,6]. Metastatic tumors are adenocarcinoma in a high proportion of approximately 70 percent, and are occupied 1 percent of the over-all spectrum of oral malignancy[6].

With reports of two metastatic tumors from gall

bladder cancer an pancreatic tumor, we discuss the clinical and histological features, and pathogenesis of metastasis, and clinical value.

REPORT OF CASES

CASE 1

A 38 year-old woman was admitted to our Dept. of Oral & Maxillofacial Surgery due to gingival mass on lower anterior area on July 12, 1989 (Fig. 1).

Fig. 1. Facial photograph showing jaundice and icteric sclera

About 1 month ago, she was tranferred to the Dept. of Internal Medicine from the local clinic with the chief complaint of gastrointestinal disturbance, and diagnosed gall bladder cancer through the all sorts of examination. She also had left supraclavicular mass.

On physical examination, she appeared general weakness and severe jaundice. Sclera was very icteric and abdominal distension was very severe, and history of nausea, vomiting and hematuria was positive.

Oral examination revealed the poor oral hygiene, and mass on the lower anterior gingiva with diameter of about 1.5cm, and gingival bleeding and discomfort (Fig. 2,3).

Roentgenographic examination did not show the specific findings. Orthopantomogram of the mandible

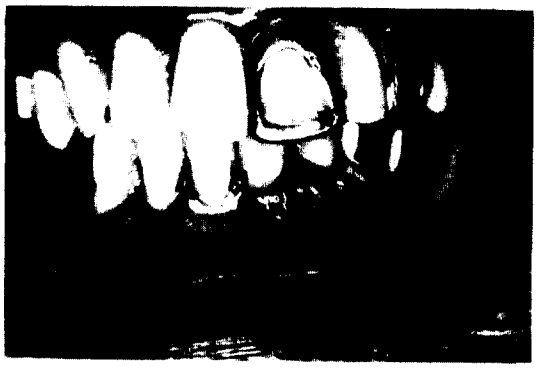

Fig. 2. Labial swelling mass

Fig. 3. Lingual swelling mass

Fig. 4. Bone scan don't show hot spot area

didn't reveal the bony changes. In whole body bone scan, no hot spot area was found in jaw bones (Fig. 4).

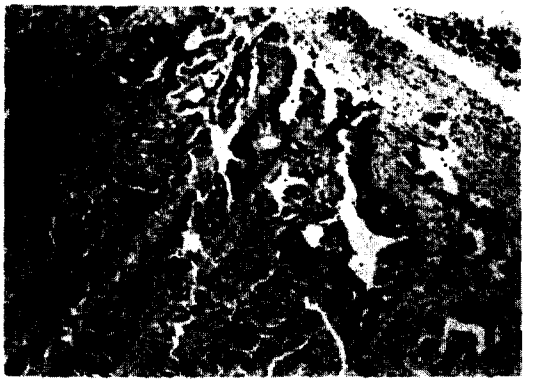

Fig. 5. Microscopic view showing neoplastic cells arranged with the duct-like pattern

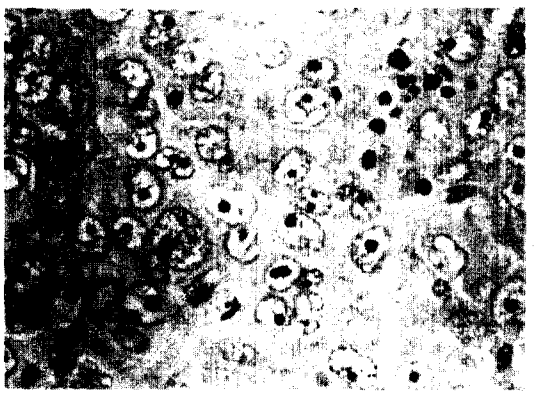

Fig. 6. This shows pleomorphism and enlarged vesicular nucleus with a prominent nucleolus

The clinical impression was that the mass was a neoplastic process, possibly of metastatic origin, and a biopsy was performed through an excision of the gingival mass of the lower incisors.

Microscopic examination revealed that the specimen was composed of clumps of neoplastic cells arranged with the duct-like pattern. Namely, the tumor cells were arranged in cords, irregular masses, and occasionally filled lacunar-like spaces of varying size. The cells were plemorphic, and showed a well-defined, enlarged vesicular nucleus with a prominent nucleolus (Fig. 5,6). Although, in some cases, an attempt at the formation of glandular alveoli was noted, there appeared to be no typical arrangement of these cells. The histologic features were compatible in all aspects with a scirrhous carcinoma of the gall bladder.

The diagnosis was adenocarcinoma metastatic from the gall bladder.

CASE 2

A 68 year-old man was admitted to our Dept. of Oral & Maxillofacial Surgery due to the mass of left lower vestibular area on August 12, 1989 (Fig. 7).

Fig. 7. Facial photograph showing the swelling of the left lower face

Two years ago he suffered abdominal pain, and was diagnosed as pancreatic tumor through the all sorts of the examination. In dept. of general surgery of other hospital, he had an operation, and had a chemotherapy for 15 months. Thereafter tumor recurred, and he had a supportive care in our hospital until then. On physical examination, he appeared to be generally weak, and had a severe weight loss and anorexia.

Oral examination revealed that oral hygiene is very poor, and the left lower terminal tooth, second molar, was severely displaced lingually due to considerably-grown mass of the left lower vestibular area. So the left side of tongue was severely irritated (Fig. 8).

Because of this mass, he complained a limitation of mouth opening and closing, so there were chewing difficulty and foul mouth odor. Although the mass

Fig. 8. Considerably-grown mass of the left lower vestibular area

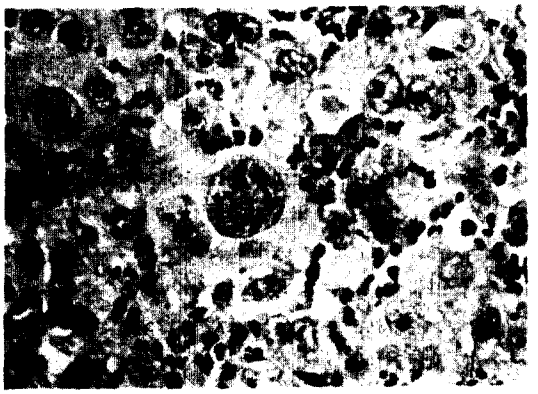

Fig. 10. Microscopic view showing pleomorphic neoplastic cells with prominent nucleolus and vesicular cytoplasm. This also shows neoplastic giant cells

was large-sized, roentgenographic findings did not show the bony change at all. In orthopantomogram and scan, there were no specific findings (Fig. 9).

The clinical impression was that the mass was a neoplastic origin metastatic from the pancreatic tumor, and an incisional biopsy was performed on the left vestibular mass.

Microscopic examination revealed severe subepithelial infiltration of neoplastic cells, which showed pleomorphic nucleus with a prominent and eosinophilic nucleolus, and slightly vesicular cytoplasm. Also, neoplastic giant cells are seen (Fig. 10). In this specimen, there were also inflammatory cells, mainly polymorphonuclear lymphocyte, and this resulted from the

Fig. 9. No specific bony change is shown

fact that inflammatory reaction was accompanied on the surface of the lesion. The histologic features were compatible in all aspects with a scirrhous carcinoma of pancreas.

The result of biopsy was carcinoma, metastatic from pleomorphic carcinoma of pancreas.

The patient was admitted to our hospital with the chief complaint of discomfort on September 5, 1989. But because the patient was a very debilitating state, it was impossible to operate under the general anesthesia. So he received only a supportive care and was transferred to the dept. of internal medicine for pain control.

DISCUSSION

Approximately a half of all carcinomas of the breast, prostate, kidney, and lung produce bone lesions before the termination of the disease[2,5]. This further emphasizes the fact that the condition of mandibular metastasis probably is not rare as one is led to believe. The condition only appeared to be a very rare one because the cases had not been reported. Tumors metastatic to the mouth and jaws were about 1 percent of the over-all spectrum of oral malignancy.

Malignant tumors metastatic to the mouth and jaws were known to be predominantly adenocarcinomas; approximately 70 percent of the tumors, and to be metastasized mainly from the breast cancer.

The route of metastasis was considered to be pri-

marily hematogenous[2,3], although spread along lymphatic channels is possible from primary sites close to the jaws, such as the lip or parotid gland.

Von Recklinghausen[3], one of the first authors, proposed the theory on three factors : first, metastasis in bone occured within the medullary cavity and reached the periosteum only by extension from the interior ; second, when the subperiosteal tissue was invaded it was always in the region of the large foramina which served as a point of egress for the veins ; and third, carcinoma cells in marrow lay in definite channels which were arranged in a manner similar to that of the veins present in the marrow[7].

Batson[4] demonstrated that the vertebral veins were a valveless plexus which formed a separate system or pool for blood which had been forced out of the thoracoabdominal cavity by an act such as coughing. And he showed that material injected into the breast venules entered this vertebral system via the intercostal veins and "duplicated the pattern of aberrant breast cancer spread" into the spine, ribs, skull, etc.

Also breast cancer etc. could be disseminated to bone by lymphatic permiation via the deep fascial lymphatics[9].

A review of articles has shown that jaw metastasis is primary, and soft tissues are involved only secondarily, and mandible is prone to be metastasized as about 6 times as maxilla. In our cases metastasis did not occur to jaw bones, only to the soft tissues. In these cases, soft tissue masses can be thought to result from direct extension or metastasis.

At this time, a criteria[1,6] will be adopted.

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 lesion 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 mrgins.

Generally, jaw metastases are predilent in female patients due to predominant breast cancer, and in patients over 60 years of age. The prognosis following the diagnosis of metastases to the mouth and jaws is very grave. Frequently, other metastases are either present or soon develop in the lymph nodes, other bones (especially vertebrae, pelvis, and long bones), lung, liver, spleen, and kidney.

SUMMARY

Malignant oral tumors occurred in the oral cavity. They were thought to result from the other primary tumors through hematogenous metastasis. Primary tumors were unusually gall bladder tumor and pancreatic tumor. Biopsy was performed and these specimens were similar to those of the primary sites histologically and clinically. Diagnoses were adenocarcinomas metastatic from the primary tumors. They did not reveal the bony changes, only soft tissue masses.

REFERENCES

1. Clausen, F. and Poulsen, H. : Metastatic carcinoma to the jaws. Acta path. et microbiol. scandinav. 57 : 361 - 374, 1963.
2. Geschickter, C.F. and Copeland, M.M. : Tumors of bone, ed. 3, Philadelphia, J.B. Lippincott Company, 1949.
3. Von Recklinghausen, F. : Die Fibrose deformierende Ostitis, die Osteomalacie und die osteoplastiche Carcinose in ihren gegeseitigen Bezeihungen, Festschr. der Assistenten fur Virchow, 17, 1891.
4. Batson, O.V. : The function of the vertebral veins and their role in the spread of metastases. Ann. Surg. 112 : 138 - 149, 1940.
5. Moorman, W.C. and Shafer, W.G. : Metastatic car-

cinoma of the mandible. J. Oral Surg. 12 : 205 - 209, 1954.

6. Meyer, I. and Shklar, G. : Melignant tumors metastatic to the mouth and jaws. Oral Surg., Oral Med. & Oral Path. 20 : 350 - 362, 1965.
7. Stockdale, C.R. : Metastatic carcinoma of the jaws secondary to primary carcinoma of the breast. Oral Surg., Oral Med. & Oral Path. 12 : 1095 - 1101, 1959.
8. Tideman, H., Arvier, J. F. and Bosanquest, A.G. : Oesophageal adenocarcinoma metastatic to the maxilla. J. Oral Surg. 62 : 564 - 568, 1986.
9. Carnett, J.B. and Howell, J.C. : Ann. Surg. 91 : 811, 1930.