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Temporomandibular Joint-Related Symptoms as Initial Presentation of Lung Carcinoma in a Patient With Takayasu's Arteritis

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Metastases to the temporomandibular joint (TMJ) are rare and have been described only in several case reports. We describe a case of 1 patient who had had Takayasu arteritis for 30 years who presented with TMJ-related symptoms (pain and swelling in the preauricular area). Additional examinations revealed a lung mass and liver metastasis. The liver biopsy specimen was diagnostic for lung carcinoma. We suggest

that metastasis should be considered when evaluating a patient with TMJ-related symptoms. Metastases to the TMJ are also discussed and reviewed.

Report of a Case

A 49-year-old man was admitted to the emergency department because of pain and swelling in the left preauricular

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area of 1 month's duration. Before his referral, he had been treated with antibiotics, nonsteroidal anti-inflammatory drugs, and carbamazepine. Within the previous few days, he had also experienced chest pain, vomiting, and nasal bleeding.

The patient had been diagnosed with Takayasu arteritis at 17 years of age, for which he had been treated with low-dose oral steroids (10 mg prednisone). Five years before the



FIGURE 1. Left preauricular swelling (arrows).

Tabib et al. *TMJ-Related Symptoms and Lung Carcinoma. J Oral Maxillofac Surg* 2011.

present admission, his ascending aorta had been replaced because of an aortic aneurism. In addition, he had developed ischemic heart disease and had undergone several heart catheterizations. His medical history also included a transient ischemic attack a few years before the present admission.

The physical examination revealed a nearly 3-cm swelling in his left preauricular area that was tender on palpation (Fig 1). He had no restriction in his mouth opening or lateral movements of the mandible. The intraoral examination revealed denture use, without any changes in occlusion or pain while palpating the area of his left lateral pterygoid muscle. An enlarged lymph node was palpated over his left clavicle. His laboratory tests revealed elevated lactate dehydrogenase (4,460 U/L) and abnormal levels of liver enzymes (aspartate aminotransferase –225 U/L, alkaline phosphatase –288 U/L, and gamma-glutamyl transpeptidase –670 U/L; alanine aminotransferase and bilirubin levels were within the normal range). A panoramic view revealed complete osteolysis of the left mandibular condyle (Fig 2). A computed tomography scan revealed a 3.5-cm mass that had replaced the condyle (Figs 3A-C), liver metastases (Fig 3D), enlarged chest lymph nodes, and a large mass at the left lung. An attempt to biopsy the mandibular mass was not successful. The liver biopsy specimen was diagnostic for small cell lung carcinoma. The patient started undergoing chemotherapy. Ten days later, he was hospitalized in the intensive care unit because of neutropenia and lung infection. However, a few weeks later, he died.

Discussion

Most oral malignancies are a primary neoplasm, and metastatic disease is unusual (1% to 8% of oral malignancies).¹ Metastasis to the TMJ is considered extremely rare and has been described only in several case reports. In a recent review of metastatic tumors to the oral and maxillofacial region, of 796 cases, 39 (13.8%) were at the condyle.² Primary cancers that have been reported to metastasize to the TMJ have included breast adenocarcinoma,^{1,3-5} renal cell carcinoma,⁶ testicular teratoma,⁷ prostate cancer,⁸⁻¹⁰ rectal carcinoma,¹¹ hepatocellular carcinoma,¹² and melanoma.¹³ Other primary cancers that have been reported have included uterine cancer, pancreas can-

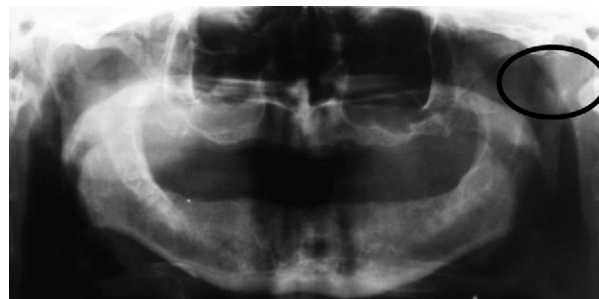


FIGURE 2. Panoramic view showing complete osteolysis of left TMJ (circle).

Tabib et al. *TMJ-Related Symptoms and Lung Carcinoma. J Oral Maxillofac Surg* 2011.

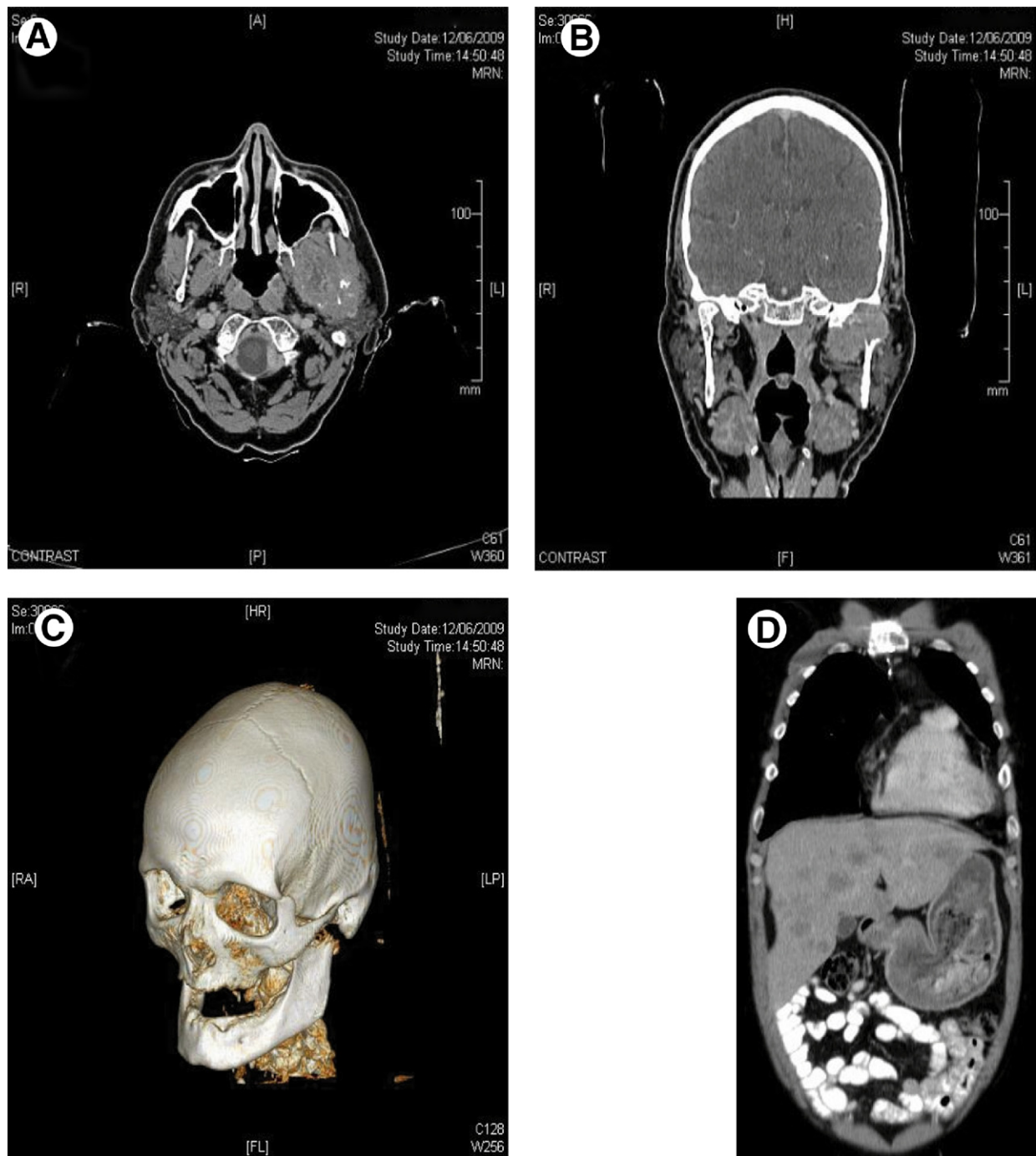


FIGURE 3. Computed tomography scans of the temporomandibular joint showing the mass and osteolysis of the joint. A, Axial section; B, coronal section; C, 3-dimensional reconstruction; and D, coronal section demonstrating liver metastases.

Tabib et al. *TMJ-Related Symptoms and Lung Carcinoma. J Oral Maxillofac Surg* 2011.

cer, and melanosarcoma.¹⁴ Two cases have been reported of metastatic spread to both mandibular condyles.^{1,7} Except for the present case report, metastasis of lung carcinoma has been reported only 3 times in English-language medical studies.¹⁴⁻¹⁶

Several explanations are possible for the low incidence of metastasis to this site, including the paucity

of red marrow, the separate blood supply of the condylar portion of the mandible, and the presence of a limiting osseous plate.^{6,17} The difficulty in differentiating clinically between common TMJ dysfunction syndrome and metastatic involvement of the condyle might have contributed to the infrequent reports of metastasis to the TMJ.¹¹ The typical symptoms of

metastasis to the TMJ include severe TMJ pain, swelling, and trismus,^{1,3,6} which have appeared in 50% of cases.^{10,14} Rarely, it could manifest as a pathologic fracture.^{3,9,11} On physical examination, preauricular swelling and tenderness has sometimes been noted,^{7,15} with a severe opening limitation¹ or deviation of the mandible.^{6,7,11} The panoramic imaging findings will initially be normal,¹⁷ but might reveal a radiolucency of the TMJ,^{1,7,11} condyle erosions,^{1,15} or fracture of the condylar neck.⁹ Radiopacities were noted in 1 case of breast carcinoma metastasis.⁵

In several patients with metastasis to the condyle, TMJ-related symptoms were the presenting symptom of the tumor.^{8,14,15,17} In others, it was a complication of a known cancer,^{3,5,7,9,11} even 19 years after its first presentation.¹ Sometimes condylectomy is required to re-establish mandibular function and to assess the histopathologic nature of the lesion.^{5,11} Metastasis to the TMJ, an indication of widespread disease, has been associated with a poor prognosis (usually survival of several months).^{3,5,7,9,11,14,15,17}

In addition to the rare manifestation of lung carcinoma as TMJ syndrome, our patient had Takayasu arteritis, a rare vasculitis of the large vessels.¹⁸ Several reports have established the association of vasculitis, particularly of the small vessels, and different malignancies.¹⁹⁻²² In these cases, the vasculitis appears in a temporal relationship to the tumor diagnosis and represents a paraneoplastic syndrome. In the case of large-vessel vasculitis (usually giant cell arteritis), such an association has not usually been found,^{23,24} but other authors have found an association.^{25,26} However, the effect of long-standing vasculitis, specifically Takayasu arteritis, and the appearance of cancer should be better addressed.

We have presented a rare case of TMJ-related symptoms as the presentation of metastatic lung carcinoma. Although not directly proven, the mass at the TMJ was most probably metastasis of the lung cancer. It might be efficient to consider this rare possibility in the differential diagnosis when evaluating a patient with TMJ symptoms. Therefore, a complete examination, laboratory tests, and proper imaging are mandatory when examining patients with TMJ symptoms.

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