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Malignant tumors could be misinterpreted as temporomandibular joint disorders

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Objectives. This article stresses the importance of exclusion of malignant tumors as a cause of temporomandibular joint disorder, which is usually caused by intra-articular or musculoligamental dysfunction without considering malignant tumors as a cause of such complaints.

Method and Results. Three patients were referred to us because of persistent and recurrent temporomandibular joint dysfunction. All patients were treated more than once through their general practitioner, ear nose and throat physician, or dental physician without significant improvement. After adequate clinical and radiological examination, malignant tumors were discovered as a cause of such complaints.

Conclusions. Patients with primary or secondary tumors could present with symptoms simulating temporomandibular joint disorder and will therefore be treated similarly. In such condition, missing that rare cause will consequently lead to unnecessary delayed diagnosis and may cost the patients their lives. (Oral Surg Oral Med Oral Pathol Oral Radiol 2012;xx: xxx)

Physicians often diagnose functional disorders of the temporomandibular joint (TMJ) associated with abnormal mandibular movements and orofacial pain as temporomandibular joint disorder (TMD or TMJ syndrome) without seriously considering other possibilities. Once this diagnosis has been made, moreover, only mechanical intra-articular and musculoligamentous disorders are considered.[1] This narrow point of view regarding facial pain (mainly concentrating on the TMJ) can lead to a real risk of misdiagnosing the rare patient with a neoplastic tumor. Such patients present a serious diagnostic challenge, especially when the clinical signs of TMJ dysfunction are present. Therefore, it is critical that the clinician thoroughly review the patient's medical history, perform an adequate physical examination, and use advanced imaging modalities to exclude nonarticular symptoms camouflaged as TMJ diseases before reaching a diagnosis of TMD alone.[2] False or delayed correct diagnosis cannot only lead to long-term, expensive therapy without reduction of the problem, but can also end with grave consequences for the patient.

Presented are 3 cases that were referred to us with TMD in which the initial diagnosis of TMJ-related symptoms resulted in improper treatment and misdiagnosis of malignant lesions with potentially fatal results.

The aim of this article is to emphasize the pitfalls that may arise from a preoccupation with TMJ pain and dysfunction and to confirm the importance of early detection and exclusion of malignancy as a cause of TMJ-related symptoms.

MATERIAL AND METHODS

Case 1

A 15-year-old female patient presented to our department with persistent pain in the right side of her face, especially around the ear and right TMJ for the preceding 18 months. She had been seen by a dentist, a local physician, and a pain management specialist and was diagnosed with TMD. She had been managed medically with analgesics, a dental splint, and physiotherapy. Because of persistent pain, the patient was then referred to a local orthodontic physician, who continued managing the patient with splints and medications without significant improvement. Magnetic resonance tomography (MRT) examination of the skull and facial skeleton was performed and showed no abnormal lesions and no significant TMJ changes. Six months later, a new MRT examination was performed and a suspected malignant mass in the right infratemporal fossa observed. The patient was referred to us for further diagnosis and management. At examination, the patient reported a dull aching pain in the right side of her face, particularly in her right ear. The pain had been gradually worsening over the previous 6 months and showed no response to analgesic therapy. She also reported a

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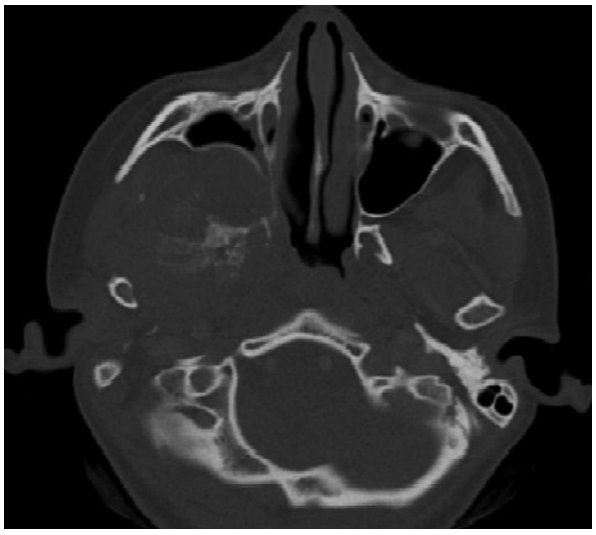

Fig. 1. CT with contrast material of the skull base, showing a mass lesion in the right infratemporal fossa, with evident destruction of the retromaxillary space and suspected infiltration of the pterygoid and temporalis muscles.

significant increase in pain intensity on opening of her mouth and diplopia of the right eye. On clinical examination, there were no visible or palpable masses in the right side of her face, no significant limitation of her mouth opening, and no tenderness or crepitation on TMJ examination. Computed tomography (CT) was performed and a tumor mass lesion in the right infratemporal fossa observed. The lesion extended from the middle cranial fossa to the retromaxillary space with significant bony erosions and irregular calcifications. There was no visible separation between the mass and the pterygoid muscles (Figure 1). Incision biopsy was done and a Ewing sarcoma identified. The patient was then operated with navigation-guided resection of the tumor, including partial resection of the sphenoid bone, subtotal maxillectomy, and excision of the infiltrated portions of temporalis and pterygoid muscles, followed by radiotherapy. Follow-up examination of the patient, including regular CT examinations, showed no tumor recurrence 3 years after tumor resection.

Case 2

A 53-year-old male patient was referred to us with a history of right side chronic TMJ pain over the preceding 3 months. The patient was examined by a local general practitioner and referred to an ear nose and throat physician for diagnosis and management. After excluding ear diseases as a cause of his TMJ complaints, the physician referred the patient to his dentist. The complaints were diagnosed as myoarthropathy of the right preauricular region. In accordance with this diagnosis, the patient was managed conservatively with

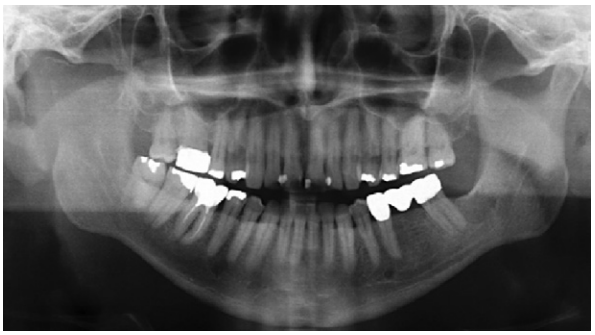

Fig. 2. Panoramic radiograph showing evident destruction of the right TMJ.

medication and physiotherapy without any apparent pain reduction. Because of worsening of the patient's complaints and painful mouth opening, together with appearance of slight fullness of his right parotid region, the patient was referred to us for further diagnosis and management. Clinical examination of the patient revealed a diffuse painless swelling in the right parotid region, malocclusion, and trismus. Radiological assessments (panoramic, CT, magnetic resonance imaging [MRI]) showed a diffuse radiolucent lesion penetrating deep into the ascending ramus of the mandible, measuring approximately $5 \times 5 \times 4$ cm with clear evidence of condyle destruction and infiltration of the skull base with presence of cervical lymph node metastasis at the level II (Figures 2-4). Radiological and clinical surveillance of distant metastasis was negative. Open biopsy of the lesion showed evidence of a high-grade myoepithelial carcinoma of the right parotid gland. This was followed by definitive surgical resection of the tumor using navigation-assisted surgery with total parotidectomy, resection of the ramus of the mandible, including its condyle, immediate facial nerve reconstruction, and a functional neck dissection. The continuity of the mandible and TMJ function were restored with a plate and an artificial condyle. The patient successively received adjuvant radiotherapy and chemotherapy. Postoperative follow-up after 18 months showed no clinical evidence of local tumor recurrence or distant metastasis.

Case 3

A 52-year-old female patient visited our institution with intermittent pain in her left preauricular region in the resting state and limited ability to open her mouth, with accompanying pain. These complaints were persistent over the preceding 6 months. She was first seen by her general practitioner and was suspected to have TMD. The patient was referred to a dentist for treatment. She was treated with analgesics and physiotherapy without reduction in her complaints. The patient was referred to