

# AN INTERESTING “TMJ” CASE HISTORY YOU MAY FIND INSTRUCTIVE

*A patient who had seen six prior doctors with severe pain with eating and speaking and worsening apparent TMJ pain and swelling—prior to referral to our center.*

## HISTORY OF PRESENT ILLNESS

An 82 yo full time librarian in excellent health presented to us with the following history. She described that she had an uneventful left sided maxillary tooth extraction by a periodontist in January 2017. A few weeks after the procedure she developed ear pain for which she saw an ENT specialist in February. He referred her back to the periodontist who obtained a Panorex which was apparently normal and she was referred to a general dentist for treatment of TMJ disorder (TMD). Her pain continued to worsen, she now had peri-mandibular swelling and was referred to an oral surgeon. She subsequently saw her internist who referred her to another ENT doctor who appropriately felt this was likely TMD and referred her to our center in June of 2017. Thus, Dr. Hatz was the seventh doctor the patient saw to find a diagnosis and treatment for her problem: her presumptive diagnosis having been TMJ pain of unexplained etiology.

## TMJ INSTITUTE EVALUATION

On evaluation Dr. Hatz found her left TMJ to be tender with severe swelling around the left hemimandible. She was lean and gaunt and appeared weak and tired, with marked pain speaking or eating. She was also evaluated by Dr. Prodromos. She was afebrile with an ESR of 70, and normal WBC with no left shift. Dr. Hatz ordered a 3 Tesla MRI of her left TMJ and jaw area which showed extensive edema of the masseter and surrounding musculature and severe mandibular damage and necrosis. CT of the mandible showed extensive mandibular bone destruction including the neck and mandibular notch but not the condyle of the mandible or TMJ—consistent with infection or tumor but not septic TMJ arthritis.

At that point we hypothesized infection from her extraction with spread to the mandible and ordered another MRI to include the maxilla: however, it showed only normal tissue near the extraction and no abnormality between the maxilla and the mandible. With spread from the maxilla ruled out we looked for other etiologies and hypothesized MROC, so called medication related osteonecrosis of the jaw: usually associated with bisphosphonates but more recently seen with other antiresorptives used to treat osteoporosis as well. However, the patient had no h/o bisphosphonate or other antiresorptive use in her medication history. But on closer questioning along this line she said that she had been getting twice yearly injections of some drug for osteoporosis which she did not write down. We ultimately confirmed this to be Denosumab (Prolia: which has been reported to cause osteonecrosis of the jaw, usually after tooth extraction). Our diagnosis thus now became MROC with secondary infection, most probably from Actinomyces. This triad of antiresorptive use, osteonecrosis and indolent infection has been recently reported. Although her lack of fever, leukocytosis or left shift would normally rule out osteomyelitis we know that in chronic cases these may all be negative.

***Continued on the back...***

## **TREATMENT**

The patient was weakening as she was unable to eat, or speak clearly, and had a hemoglobin of 8.5 apparently due to her chronic disease. Her pain had become uncontrollable as well without strong narcotics which we were reluctant to use due to risk on an outpatient basis. At 82 years old with her worsening overall health and likely infection, we felt she was at great risk to have a catastrophic event. Therefore, she was admitted in hospital and infectious disease consult obtained. They concurred with our diagnosis and immediately started her on i.v. antibiotics. She was given narcotics which were able to control her pain and allow her to sleep. We had hoped to obtain tissue before starting the antibiotics but the patient declined biopsy. Within 24 hours on antibiotics her pain was greatly reduced thus also confirming the diagnosis of infection. She was discharged after five days in the hospital, now on oral antibiotics with pain and swelling markedly reduced, her nutrition and speech greatly improved and pain medicines stopped. The patients heartening words to us at that time were "Doctor, you saved my life."

## **DISCUSSION**

This case points out the pitfalls of diagnosis in this area. This patient was understandably, diagnosed with TMJ disorder over a five-month period by a number of excellent doctors. And, indeed she did have some TMJ inflammation with a small sympathetic effusion, even though this turned out to not be her primary problem. The challenge of TMJ disorder is not only bringing relief to TMD sufferers, but correctly diagnosing the significant number of patients such as this one with related or mimicking disorders. She, in fact, had moderate tenderness seemingly at the TMJ itself (even though the bony and fibrocartilaginous aspects of the TMJ itself were well preserved) because the neck and mandibular notch, which were affected and are very close to the TMJ, were quite tender. Thus, it was easy to be misled on exam.

Antibiotics for presumed Actinomyces bone infection are continued for six months. We are hopeful that this will entirely eliminate her problem. However, if her pain recurs she may yet need surgical intervention. Advanced disease can result in extensive bone resection and even hemimandibulectomy, which we hope has been averted by catching her problem in time. If surgery is needed we would likely augment surgical debridement with autologous stem cell implantation.

We believe that the combination of a DDS with dental practice limited to TMD (Dr. Hatz) and an Orthopaedic Surgeon with knowledge of bone and joint disorders (Dr. Prodromos) available for immediate on-site consultation when needed, e.g. regarding her osteoporosis medications and overall medical condition in this case, provides an optimum combination for the diagnosis and treatment of patients with difficult TMJ, or TMJ mimicking, disorders.