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Case Report

Degenerations of TMJ. Hard and Soft Tissues Caused by Chronic Rheumatic Conditions: Case Report

Abdul Ilah Touleimat*

Professor, Department of Maxillo Facial Surgery, University of Pittsbugh Dental School, USA

***Corresponding Author:** Abdul Ilah Touleimat, Professor, Department of Maxillo Facial Surgery, University of Pittsbugh Dental School, USA.

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Abstract

TMJ is affected by osteoarthritis to show destructive bone changes, accompanied with pain and dysfunction of the lower jaw.

This article describes a case of a patient who visited the department of maxillofacial surgery Damascus university asking for help because of pain and limitation of function of the temporomandibular joint (TMJ). He also reported increasing of pain during movement of the mandible. Patient have had a History of severe temporomandibular joint rheumatoid arthritis. This case was surgically treated, that was a full removal of the disc with Problast plate replacement.

Keywords: *Osteoarthritis; Chronic; Rheumatoid Arthritis; Condyle; Disc Temporomandibular Joint; Surgery*

Introduction

In a statement by the world health organization concerning chronic rheumatic conditions.

Rheumatoid arthritis is a chronic systemic disease that affects the joints, connective tissues, muscle, tendons, and fibrous tissue. (#4) It tends to strike the individuals in their most productive years, between the ages of 20 and 40, leaving them with a chronic disabling condition of pain and deformity.

(#5) To state also that is more common in women and in developed countries.

(#6) At least 50% of patients in developed countries are unable to hold down a full-time job.

(#7) Osteoarthritis is defined as a degenerative joint disease characterized by degeneration of cartilage, subchondral bone sclerosis and formation of osteophytes. (#9) TMJ could be affected by osteoarthritis, revealing a destructive bone changes cause pain and/or dysfunction of the joint during the jaw movement. The related pathophysiology and etiology of these conditions are complex, and the role in the onset of OA is often attributed to a variety of local and systemic factors that generally act synergistically in the occurrence of a pathological condition. (#10) Therefore, it has been considered that osteoarthritis to be multifactorial disease [1]. (#11) According to the current literature, the degenerative changes in the TMJ are the result of imbalance that founded between joint loading during functional and parafunctional movements of the jaw taking into consideration the ability of the TMJ to tolerate and the flexibility of its specific structure, functional remodeling and tissue repair [2]. (#12) (#13) Macro changes in the joint elements as a result of the imbalance between the dynamic processes and the ability of these elements to adapt to the new loads, begins at a molecular level. Accumulation of that changes may sometimes manifest as functional disorder during clinical examination [1].

(#14) Because the symptoms, most the times, do not indicate clearly of the presence of degenerative joint disease, imaging is very important in supporting our clinical evaluation.

A clear accurate images of bone structures changes could be obtained through computerized tomography (CT) and cone-beam CT (CBCT). (#15) (#16) This, CBCT is considered as the new method to visualize hard-tissue changes with a relatively low radiation dose. Magnetic resonance imaging (MRI) is of great importance visualizing the status of the joint disc [3]. (#18) Simple radiography, panoramic for instance, can display advanced destruction of bone tissue in the form of flattening, however, in the same time it is not sufficiently detailed method for evaluating the severity of OA. (#19) In fact Imaging of an osteoarthritic joint will shows osteophytes, erosion and subcortical pseudocyst [6]. (# 20) Because of the weak relation between the severity of the symptoms the patient shows and the radiologic evidence of the joint destruction, makes the diagnosis of osteoarthritis very difficult [6].

According to the American academy of orofacial pain, TMJ osteoarthritis is categorized into primary and secondary. Primary TMJ osteoarthritis is characterized by the absence of any distinct local or systemic factor. Secondary TMJ osteoarthritis is however associated with a previous traumatic event or disease [6].

Case Report

A 45 years male presented himself with pain in the TMJ.L. Resign. This pain is stimulated upon the jaw movement.

Clinical examination revealed, good dentition, normal occlusion, very fair oral health, and no any kind of facial swelling or asymmetry. Joint noises were heard upon the mouth opening.

Panoramic X-ray shows no clear pathology except a partial resorption of the adjacent condyle.

MRI was made to reveal that: A mass of water rich structure, located anterior and lateral to the Mandibular Left condyle (Figure 1).

Figure 1

About this mass: A mass of water rich structure, that put us about the possibility of being a lipoid mass, a lipoid mass on MRI should appear as a well circumscribed bordered mass (Figure 2A). A lipoid mass in a certain space should take the same shape of the this space (Figure 2B). Having a kind of irregular border for this mass will roll out the possibility of being a lipoid mass (Figure 2).

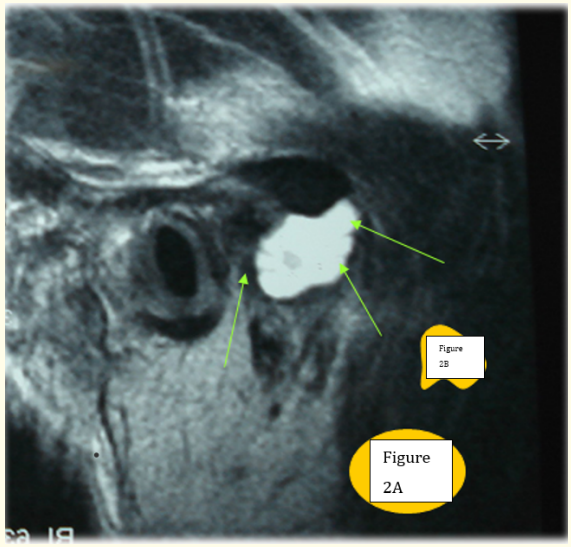

Figure 2

Locking closely: The MRI in this stage shows no signs of disk being in its normal place, that should cover the condyle (Figure 3).

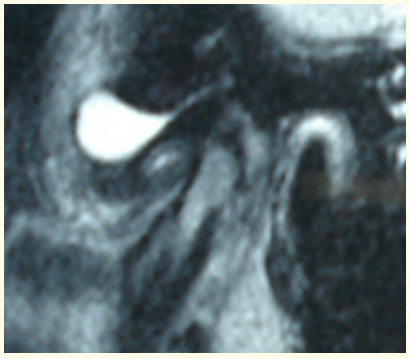

Figure 3

Taking into consideration and what have been mentioned; will lead us to Assume that the MRI mass is a migrated disk.

Surgery: Creating an entrance to the mass to be removed and pathologically examined, we had two choices, one directly above the mass, the other was to reach the mass through the preauricular incision as for TMJ Surgery. In this case we used the later entrance.

Clinically the area shows no elevation of the skin or even a movable mass upon palpation.

This way we were wondering should the cut be directly over the region of the mass or should we reach the area through a TMJ. conventional approach (Figure 4).

Figure 4

The entrance to the joint was made through a T shape incision in the joint capsule (Figure 5).

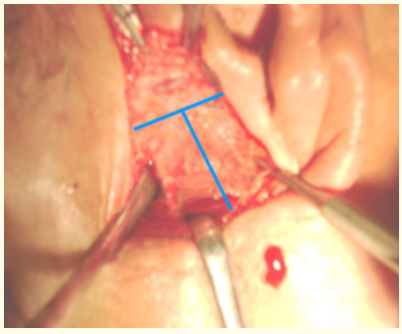

Figure 5

The TMJ capsule was opened and reflected aside (Figure 6).

The mass was laying between the capsule and the lateral surface of the condyle and its neck.

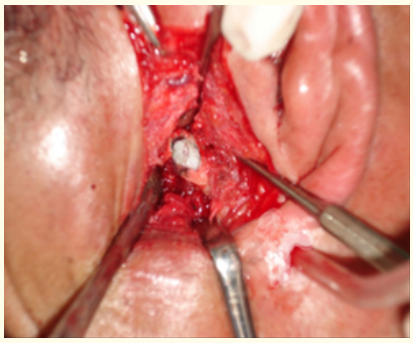

Figure 6

Kindly the mass was dissected and freed from some thin connective tissue.

Removing the Mass guided us to a clear picture of the lateral surface of the condyle (Figure 7).

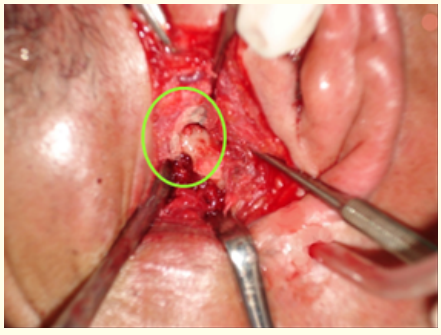

Figure 7

The whole lateral surface of the condyle was clearly seen with partial resorption.

Both boney surfaces of the joint were clearly naked and no disk protecting either the condyle or the fossa. A layer of problast plate was inserted and sutured to the capsule for this purpose (Figure 8).

The capsule was sutured and closed (Figure 9).

Then the area was closed in the usual manner (Figure 10).

The whole piece of tissue (Figure 11) was submitted for Pathology to fined that was a descriptive TMJ. Disc tissues.

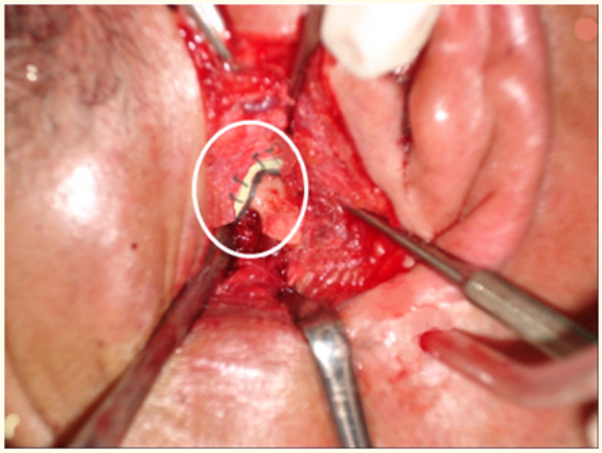

Figure 8

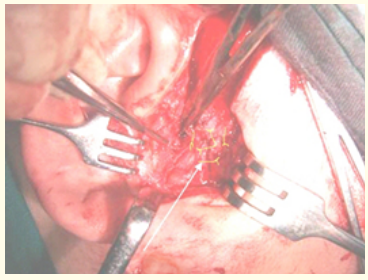

Figure 9

Figure 10

Figure 11

Discussion

Early stages of TMJ rheumatic conditions could be treated, as any other joint in the body. Treatment mostly tend to be a symptomatic treatment, in attempt to get some kind of release, dentist will start with pain medications and sometimes in more severe and chronic cases steroids may be injected. Few of them try to go for farther means of treatment using joint fixation, others might try an appliance that will help reducing the joint pressure.

In severe and chronic cases, it is very important to study the case for farther and good evaluation. Imaging of the soft and bony structures will help us coming to the best treatment.

In this case MRI was very important and helpful in taking the wright way of treatment.

Conclusion

Rheumatic conditions will degenerate both soft and hard tissues. All kinds of Imaging means are very important for having a good evaluation of the case you are dealing with. MRI IS very important guide for good understanding the status of the joint elements. In severe cases, surgery will be the only treatment of choice.

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