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Evaluation of the Commitment of the Tempomandibular Joint in Patients with Rheumatoid Arthritis

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Abstract:
Rheumatoid arthritis (R.A.) is an autoimmune disease, chronic, systemic and progressive that mainly affects peripheral and small joints. The diagnosis is based on the criteria of the American College of Rheumatology (A.C.R.), September 2010. In the definition of the pathology given by the Argentine Society of Rheumatology, it is described that it compromises the temporomandibular joint (T.M.J.). This clinical odontology research would allow a quick guidance and safe markers to TMJ disturbance in RA. Would provide a correct non-invasive diagnosis, treatment and prognosis of this pathology.

Key words: *Rheumatoid arthritis, temporomandibular joint, ultrasound.*

I. Introduction

Rheumatic diseases are a group of around two hundred diseases that affect the musculoskeletal systemand in some cases other organs and systems. Its most frequent clinical manifestations are pain, stiffnessand decreased joint mobility, which brings with it, varying degrees of disability. Its importance lies in theincidence and prevalence with which they occur in the general population, associated morbidity andmortality, disability and temporary and permanent disability. [1]

Rheumatoid arthritis (R.A.) is an autoimmune disease that is characterized by peripheral polyarthritis,generally symmetric affecting small joints causing alterations and disabilities. [2]

It is a progressivedegenerative disease in which diagnosis and early treatment are determining factors. Because it is arelevant health problem for our country, the Argentine Society of Rheumatology and the NationalRehabilitation Service have established the regulations for disability in patients with A.R. [3]

In medical practice emphasis is placed on joints such as knees, hips, elbows, wrists, small joints of handsand feet and we forget other joints that are also important in the proper performance of the basic functionsof the human being. [2]

One of the joints that has been altered and little studied in this disease is the temporomandibular joint(TMJ). It is one of the most complex of the human body; it is formed by the mandibular condyle, whichfits the glenoid fossa of the temporal bone and is considered as a ginglimoartroidal joint, because itperforms hinge and sliding movements. [4] [5]

Although patients may present extreme skeletal situations, only some morphological variations areassociated with low level dysfunctions. [6] Anyway, some disorders that affect the T.M.J. they are ofunknown origin, among the possible causes are mentioned local disorders such as occlusal disharmonies,bruxism, stress and extractions of the third molar, considered as risk factors and systemic diseases amongwhich include rheumatic conditions such as R.A. [7]

Joint pain has peculiarities, but the pain of the T.M.J. it merges into another set of exclusivesymptomatology. [8] In other chronic pathologies with painful episodes, mechanismscould be developed to support this symptomatology. [9] The conditions of T.M.J. in R.A., they do notusually show pain, because of the adequate

treatment they receive both to relieve pain and to stop thedisease, which include remission-inducing drugs, nonsteroidal anti-inflammatory drugs andcorticosteroids. In spite of which, its alteration could modify the quality of life of the patients. It is thejoint used in feeding. It alters the quality of rest and sleep, so that the study of their specific conditionswould be very important because early diagnosis and adequate treatment is a determinant of prognosis.

II. Objective

To study the involvement of temporomandibular joint in patients with rheumatoid arthritis, throughdiagnostic imaging methods.

III. Material and Methods

Case-control study, cross-sectional,descriptive and analytical. Inclusion criteria: Patients who wereattended in Rheumatology Service of Córdoba Hospital and Sanatorium Allende. Who have signed theinformed consent. Exclusion criteria: Patients under 18 years of age. Having any other autoimmunedisease. The patients were entering in sequence and divided into the following experimental groupsmatched for age and sex: Group 1 (C): 40 control patients without AR; Group 2 (R.A.): 20 patients with adiagnosis of RA by 2010 EULAR / ACR criteria. We performed a clinical examination of the oral cavity,with emphasis on TMJ, high resolution and power ultrasound of TMJ, orthopantomograhy and bilateralXR of condyles with mouth open and shut.

IV. Results

Clinically, no patient had spontaneous pain or tinnitus prior or maintained over time in both groups. InRA patients, 18 (90%) had joint effusion, of which 3 (15%) showed capsular distension; 12 (60%)showed degenerations in inferior condylar head; 10 (50%) reported altered previous dynamic condylarand condylar asymmetry; 2 patients (5%) control group showed minimal effusion.

Figures

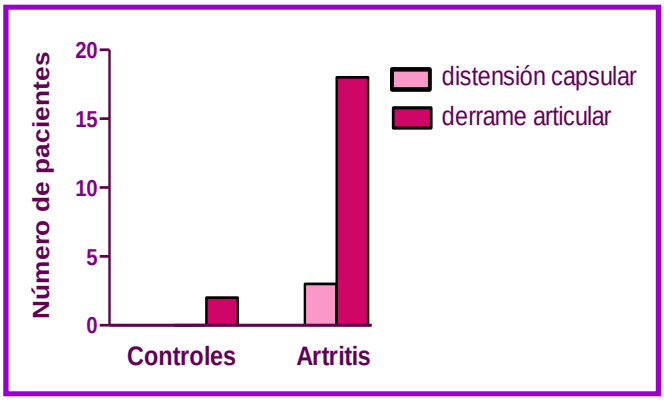

Figure 1: Results of T.M.J. ultrasound

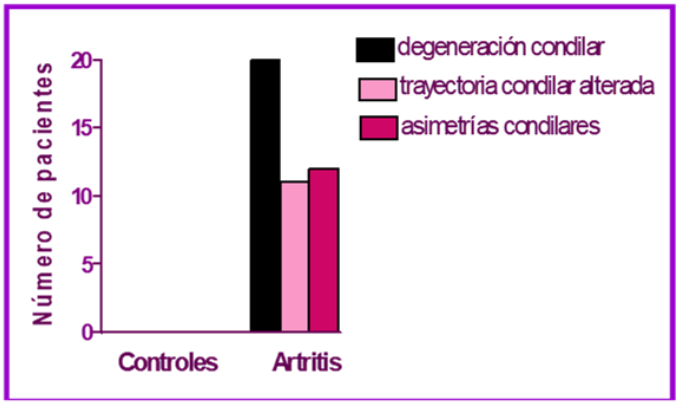

Figure 2: Results of T.M.J. radiographic studies.

Illustrations

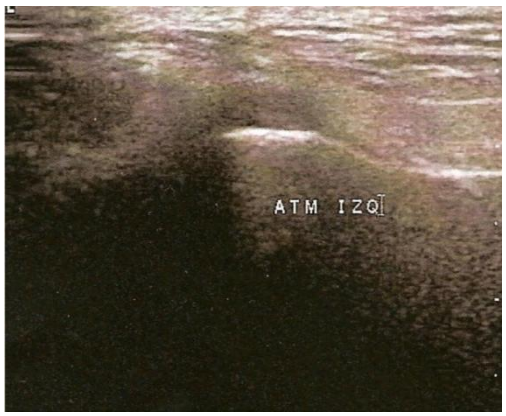

Illustration I: Patient with joint effusion observed in the closed mouth on the left side

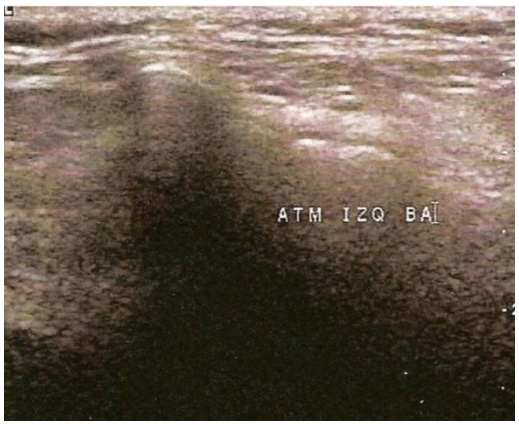

Illustration II: Patient with joint effusion observed in open mouth on the left side

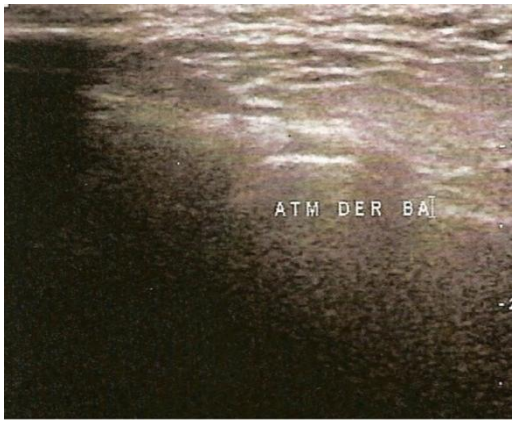

Illustration III: Patient with joint effusion observed in the open mouth on the right side

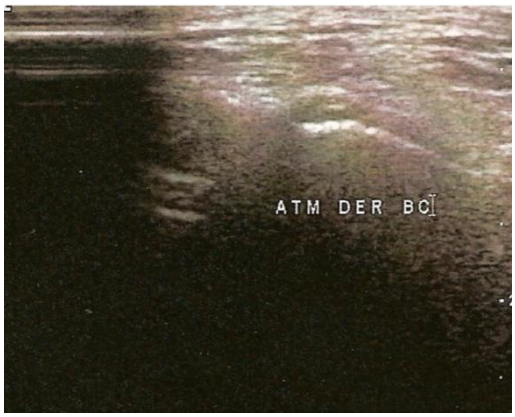

Illustration IV: Patient with joint effusion observed in the closed mouth on the right side

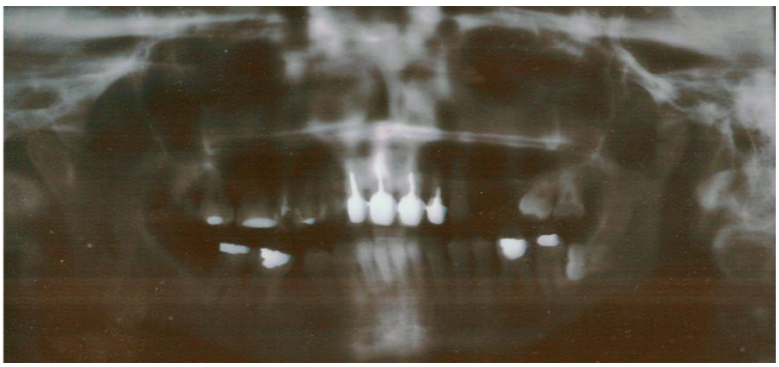

Illustration V: Patient with condylar degeneration (orthopantomography)

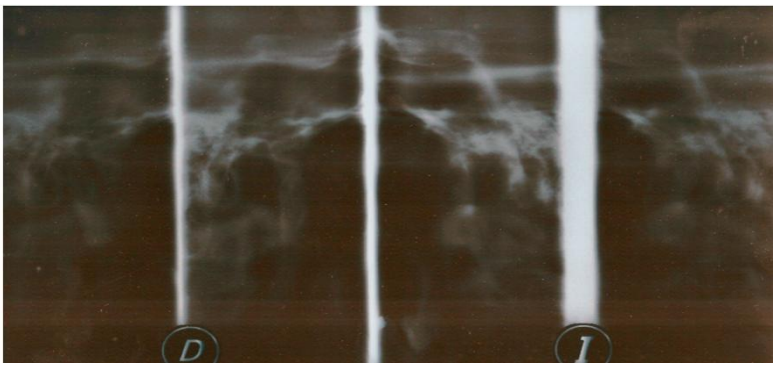

Illustration VI: Patient with condylar degeneration (bilateral condilography)

V. Discussion and Conclusion

The R.A. it is considered as the most frequent rheumatic disease with affectation of T.M.J. found in bothnational and international studies with similar frequency of occurrence between these studies and ours.[10]

We emphasize the high incidence of involvement of the temporomandibular joint either unilateral orbilateral. There are different circumstances that could explain this situation, among which theinflammatory process that accompanies R.A. stands out, the use of drugs for the treatment of them,oxidative stress as a generator of proinflammatory cytokines that induce changes both at the level ofcartilage and of the articular discs and finally the degenerative process that the articulation undergoes dueto aging and the association of the rheumatic disease in question. We note that we conducted a search ofboth national and international works, but there is little evidence in the literature that refers to research onthe incidence of affectation of the T.M.J. in R.A., although with respect to the affectation of saidarticulation in other dental processes. We did not find works in asymptomatic T.M.J. [11] [12]A high percentage of patients with rheumatoid arthritis present involvement of the temporo-mandibularjoint, despite being asymptomatic. These imaging methods are harmless and constitute an orientationguide for the prevention and early treatment of pathologies that affect the temporo mandibular joint.Everything described above demonstrates the need for interdisciplinary teamwork for the treatment ofpatients with rheumatic conditions among which the presence of odontostomatologists, maxillofacialspecialists and rheumatologists is necessary in order to achieve health care with high quality standards.

The T.M.J., frequently, are affected in the course of rheumatic diseases and the time of evolution has anegative effect at the joint level. The R.A. is the rheumatic disease with the highest prevalence ofaffection in the T.M.J. High resolution ultrasounds, although they are a nonspecific test, could beimplemented as a diagnostic approximation technique in RA. This clinical research in the dental areawould allow, in the face of an T.M.J. affection in patients with R.A., a rapid access to a correct non-invasive diagnosis and more favourable prognosis of this pathology.

This clinical odontology research would allow a quick guidance and safe markers to T.M.J. disturbance inR.A. Would provide a correct non-invasive diagnosis, treatment and prognosis of this pathology.

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