



Case Report

Neglected Temporomandibular Joint In Rheumatoid Arthritis

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Abstract

Rheumatoid arthritis (RA) is a chronic multisystem disease of presumed autoimmune etiology characterized by synovial inflammation that destroys the joint tissue. Although the susceptibility of temporomandibular joint (TMJ) to RA is similar to any other synovial joints in the body, it is generally neglected by the patients without realizing the signs and symptoms of temporomandibular joint disease (TMD). Therefore, it presents a challenge for the Rheumatologists & Dental healthcare personal to suspect and to diagnose TMD in RA at an early stage. The aim of reporting the present case is to highlight the importance of early diagnosis of TMD and thereby reduce the severity of disease which might otherwise collapse the stomatognathic system.

Keywords: Temporomandibular joint (TMJ), Temporomandibular disease (TMD), Rheumatoid arthritis(RA).

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INTRODUCTION

Rheumatoid arthritis (RA) is a systemic disorder, which may involve many of the di-artrodial joints in the body.[1] Temporomandibular joint disease (TMD) is an inclusive term in which, conditions affecting the masticatory function are embraced. These conditions may be due to specific disorders of the temporomandibular joints (TMJ). [2] The TMJ afflicted by RA may follow the same destructive path as the other joints, harmonizing directly with the extremity of the disease. [3]

The literature generally states that TMD in RA patients are often overlooked by Rheumatologists or by the patients themselves, until and unless the clinical symptoms hamper the function of the upper extremities and weight-bearing joints. [1, 2, 3] The presented case, reports one such illustration with severe TMD and emphasizes on the importance of periodic TMJ evaluation in patients with RA.

Patient information

A 50-year-old female, suffering from RA for the past ten years, was admitted at our medical facility with severe joint pains and inability to fold her knee joints. Associated complaints reported were fatigue and weakness. Timeline of history presented in Figure 1.

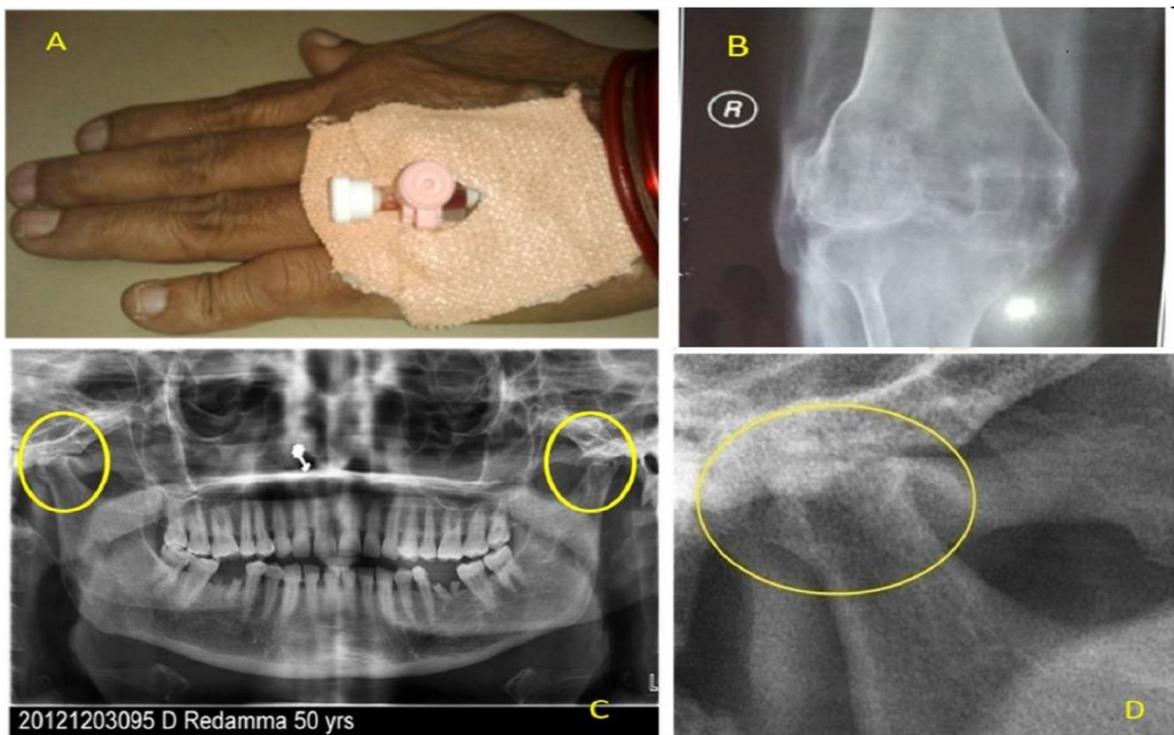


Figure 1: (A): Swan neck deformity of little finger,(B): Knee joint showing complete loss of joint space(C): Orthopantomograph revealing destruction of condylar head & loss of joint space bilaterally. (D): Magnified view of right side joint showing loss of joint space and condylar head.

Clinical description

Clinical examination disclosed a stiffness of the knee joints with mild swelling. Minor joint deformities and stiffness were also observed in the fingers of right & left hand especially the interphalangeal joints and a swan neck deformity of the little finger was also noted. [Figure2-A] A cursory examination of the TMJ revealed clicking sounds, though the patient did not complain of any discomfort/pain. Further, a thorough history revealed occasional headaches not attributable to any other cause.

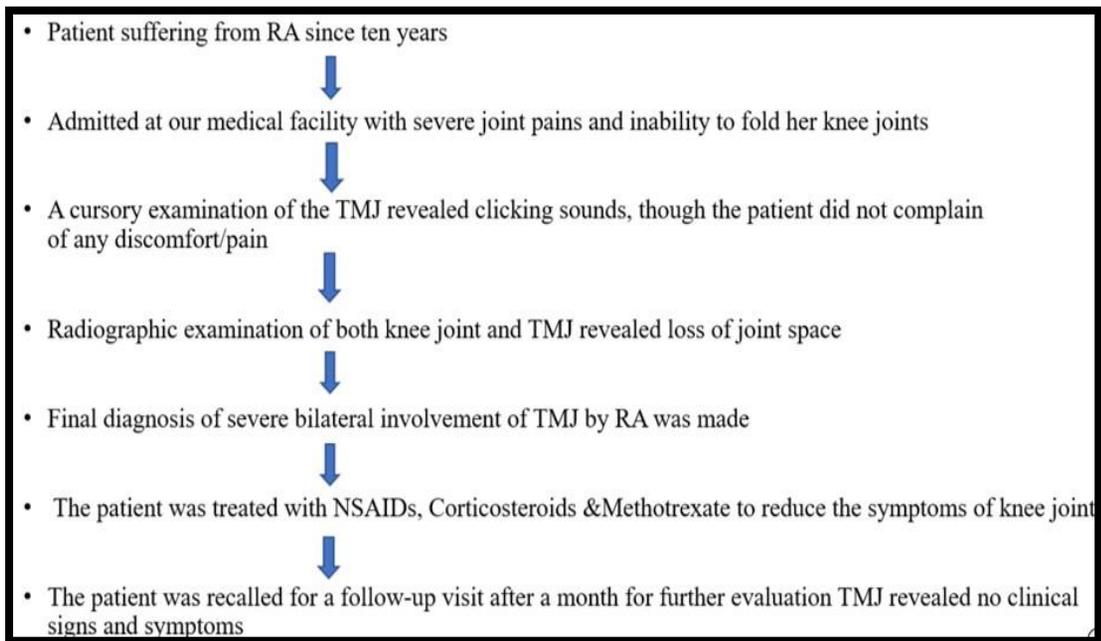


Figure 2: Timeline of patient history

Diagnostic assessment

Radiographic examination of knee joint revealed a concentric reduction of joint space on both right & left sides, paucity of osteophytes, periarticular osteoporosis with minimal involvement of patellofemoral joint. [Figure 1-B] Orthopantomogram (OPG) revealed complete loss of joint space & condylar head deformity [Figure 1-C&D] on both the right and left side of the mandible, similar to the bony changes seen in the knee joint.

Laboratory investigations revealed the Rheumatoid factor (RF) of more than 10 IU/L, with raised ESR of 48mm/hr, while the CRP was 55mg/L. Total Leucocyte count was 14,500/mm³.

Therapeutic intervention

Considering the above clinical, radiographic and laboratory findings, a final diagnosis of severe bilateral involvement of TMJ by RA was made and was referred to Rheumatologist for expert opinion and the need for complete management of RA. The patient was treated with NSAIDs, Corticosteroids & Methotrexate.

Follow up and outcome

The patient was recalled for a follow-up visit after a month for further evaluation and joint replacement if necessary.

DISCUSSION

Rheumatoid arthritis (RA) is a chronic, systemic, and autoimmune inflammatory disorder. [3,4] The central pathophysiology in rheumatoid arthritis is found in the synovial tissues of peripheral joints in a symmetric distribution with extensive infiltration of immunocompetent cells and increased levels of inflammatory mediators. [4,5,6] It often leads to the deterioration and eventual destruction of articular cartilage and juxta-articular bone, as well as inflammation of the surrounding tendons, which frequently results in deformities of the affected joints. [3,4,6] This inflammatory response explicitly affects the small joints of the upper and lower extremities.[6] The disease process results in joint crepitus, which is considered to be a clinical sign of the surface destruction of the joints. [2,3] RA affects about 1% population worldwide. [3,5,8] While clinical TMJ involvement is in between 4–80% of RA patients. [1,4,7,8] Women are 3-5 times more likely to be affected than men with the age range of 35 to 45 years among RA patients. [3,5,7] It was reported that women might be more prone to diseases due to the hormonal influence and stressful life.[9] It has also been suggested that the presence of estrogen receptors in the TMJ of women modulates metabolic functions with laxity of the ligaments, and this could be relevant in TMD. Estrogens would act by increasing vigilance with pain stimuli, modulating the activity of the limbic system neurons.[9]

According to the Larsen method, on radiographic examination of TMJ in the present case, a score of 5 was given (Mutilating changes, where the original bony outlines have been destroyed).[10] The duration of RA, especially when it is more than five years, is regarded as an aggravating factor for the involvement of the TMJ. Degenerative bone changes such as the presence of erosion and flattening in the mandibular condyle, are usually noticed between 5 to 10 years after the onset of symptoms. [1,10] The reported case had a history of 10 years wherein the bony changes are progressive and are proportional to the duration of the disease. TMJ discomfort or complaints are likely to be overshadowed by joint problems elsewhere in the body. Compared with other joints like the hands and knees (constant motion or weight-bearing is unavoidable in daily life) where the severity of RA increases with duration, the joints of the stomatognathic system are less problematic for RA patients. Patients with TMD modify their eating habits to adapt to the limitations provoked by their condition; thus, it does not seem to be a severe problem in the patient's perspective.[2] As seen in our case, despite the presence of severe degenerative changes in the weight bearing joints, the TMJ was never evaluated earlier. Therefore, it becomes essential that a routine TMJ evaluation is done in all individuals who are diagnosed with RA.

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CONCLUSION

A frequently neglected joint, the TMJ when affected, in an RA patient has been found to follow the same destructive path as other joints, correlating directly with the severity and duration of RA. Ignored by both the patient and health care provider, the quality of life is compromised when the stomatognathic system deteriorates. Hence, it is important that health care providers examine the TMJ as a routine procedure to help identify such subclinical TMD's and initiate early and appropriate management. Early diagnosis and treatment of RA, Periodic evaluation of TMJ in RA patients and creating awareness about joints deformation and deterioration reduces the severity of disease preventing the collapse of the stomatognathic system, and its various essential functions in these patients.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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