Introduction

Ankylosing spondylitis (AS) which is also known as Marie-Strumpell disease, is a chronic inflammatory disorder which primarily affects the axial skeleton, although peripheral joint involvement can also occur. The male: female ratio is ranging between 2.4:1 and 18:1.[1] Different parts of joints affected are synovial, cartilaginous articulations, and the sites of attachment of tendon and ligament to bone.

Temporomandibular joint (TMJ) involvement in AS ranges from 4% to 35%.[2] Involvement of TMJ causes pain restrictive movement of joint that cause inability to eat. Although conventional radiography can pick up TMJ involvement, but computer tomography (CT) is required for joint space relations and bony morphology. Here, we are reporting a case of AS with TMJ involvement and highlights the importance of imaging in this disease, as early diagnosis and treatment can improve the quality of life in these patients.

Case Report

A 35-year-old male, follow-up of a case of AS diagnosed 5 years back on regular treatment with sulfasalazine, reported to the medicine outpatient department with a history of painfully restricted movements of jaw during swallowing. Computer tomography of patient demonstrates articular cartilage changes with disc and joint abnormalities.

Access this article online

Quick Response Code:  
Website: www.jfmpc.com  
DOI: 10.4103/2249-4863.197292

How to cite this article: Gupta N, Gupta N, Tomar LR, Nair N. Temporomandibular joint ankylosis in ankylosing spondylitis: A case report and review of literature. J Family Med Prim Care 2016;5:716-8.
X-ray lumbosacral spine showed ossification within the facet joint capsules, and ligamentum flavum bilaterally produces two vertical linear densities (upper black arrows) at the lateral aspects of the vertebral bodies. There is coexistent ossification within the interspinous-supraspinous ligaments, creating the midline linear opacity (starred) known as dagger sign. Marginal syndesmophyte formation (lower black arrows) is also seen. Furthermore, noted is the complete obliteration of bilateral sacroiliac joint spaces (white arrows) suggestive of bony ankylosis [Figure 1]. Orthopantomogram showed loss of joint space in bilateral TMJ [Figure 2]. Volume rendered CT images of TMJ revealed complete bony ankylosis of the left TMJ [Figure 3]. Diagnosis of AS with TMJ involvement was made and the patient was treated by a combination of conservative techniques that includes including rest, exercises for painful joint, and pharmacological treatment with sulfasalazine 1 g twice daily and indomethacin 50 mg daily. His clinical signs and symptoms did not improve after 1 month of treatment. The patient was advised biological therapy for AS disease activity and later on he was counselled for splint or prosthosis, both of which he refused.

Discussion

TMJ is the most important joint for mastication. Its involvement in any disease leads to increased morbidity. TMJ is commonly involved in rheumatoid arthritis. Although uncommon, it can be involved in AS as well. Many theories have been postulated for the involvement of TMJ in AS. Davidson et al[3] reported that the restricted mouth opening in the patients with AS may be due to the proximity of the chin to the neck. Some authors also reported that difficulty in opening the mouth may be due to the flattening and erosions of the mandibular condyle.[1] Wenghoefer et al[4] found that the limitation of jaw mobility in such patients might also be caused by an elongation of the mandibular coronoid process. Helenius et al[5] had reported that patients experience pain, stiffness, headache, and restricted movements in TMJ. Wenneberg and Kopp[6] in 1982 reported that 13% of patients has restricted mouth opening, and 31% had tenderness of the TMJs compared with control group (with 4% having restricted mouth opening and 1% having preauricular tenderness).

Our patient, a case of AS on regular treatment, developed pain, stiffness, and restricted mouth opening was evaluated. CT scan of TMJ showed complete bony ankylosis of the right TMJ. Patient was managed conservatively for a month. However, as there was no improvement, the patient was advised biological therapy for AS disease activity and later on he was counselled for splint or prosthosis, both of which he refused.

The pathogenesis of TMJ involvement in AS is not clear. Mechanisms have been proposed for the pathogenesis of TMJ involvement in AS. First, there could be destruction of the capsular or disc attachment which can result in internal derangement and degenerative joint diseases. Second, there could be a primary synovitis with direct breakdown of the articular surfaces. In such a case, internal derangement would result from articular surface changes and not precede them. Hypermobility would result from destruction of capsular attachment. Disc derangement or fibrosis of the capsule could lead to hypomobility.[7]

Treatment of TMJ involvement in AS includes nonsteroidal anti-inflammatory drugs (NSAIDs). Patients refractory to NSAIDs are treated with drugs as, corticosteroid, disease-modifying antirheumatic drugs, and biologicals.[7] In patients with a painful, reduced mouth opening capacity, the treatment of malfunctions using biofeedback and splint therapy as well as restorative and/or prosthetic rehabilitation is advised.[1]
Conclusion

TMJ involvement in arthritis is more patients with Rheumatoid arthritis. However, patients with AS can also have TMJ involvement. Clinicians should examine the TMJ as well while examining a patient of AS.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

References

1. Locher MC, Felder M, Sailer HF. Involvement of the temporomandibular joints in ankylosing spondylitis (Bechterew’s disease). J Craniomaxillofac Surg 1996;24:205-13.
2. Arora P, Amarnath J, Ravindra SV, Rallan M. Temporomandibular joint involvement in ankylosing spondylitis. BMJ Case Rep 2013;2013. pii: Bcr2013009386.
3. Davidson C, Wojtulewski JA, Bacon PA, Winstock D. Temporo-mandibular joint disease in ankylosing spondylitis. Ann Rheum Dis 1975;34:87-91.
4. Wenghoefer M, Martini M, Allam JP, Novak N, Reich R, Bergé SJ. Hyperplasia of the coronoid process in patients with ankylosing spondylitis (Bechterew disease). J Craniofac Surg 2008;19:1114-8.
5. Helenius LM, Hallikainen D, Helenius I, Meurman JH, Könönen M, Leirisalo-Repo M, et al. Clinical and radiographic findings of the temporomandibular joint in patients with various rheumatic diseases. A case-control study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2005;99:455-63.
6. Wenneberg B, Kopp S. Subjective symptoms from the stomatognathic system in ankylosing spondylitis. Acta Odontol Scand 1982;40:215-22.
7. Ghosh A, Kole A, Devi GI, Sarkar D, Haldar S, Dhar S. Treatment of ankylosing spondylitis with special reference to biologics: Single centre experience. J Indian Rheumatol Assoc 2004;12:54-7.