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CLINICAL FEATURES OF TMJ ARTHRITIS

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Abstract: Temporomandibular joint arthritis is an inflammatory disease that may lead to pain, limitation of mandibular movements, difficulty in mastication, and functional disorders. The article discusses the main causes, clinical manifestations, diagnostic methods, and treatment approaches of TMJ arthritis. Particular attention is given to the importance of early diagnosis and timely treatment in preventing complications and preserving normal joint function.
Keywords: temporomandibular joint, TMJ arthritis, inflammation, joint pain, mandibular movement, diagnosis, treatment.

Temporomandibular joint (TMJ) arthritis is an inflammatory disorder affecting the temporomandibular joint and its surrounding structures. This condition may significantly impair normal mandibular function and can lead to pain, restricted mouth opening, difficulty during mastication, joint stiffness, and discomfort during speech. Since the temporomandibular joint plays an essential role in chewing, swallowing, speaking, and other daily activities, inflammatory changes in this region may considerably reduce a patient's quality of life.

The development of TMJ arthritis may be associated with various etiological factors, including local trauma, bacterial or viral infections, autoimmune disorders, rheumatic diseases, and systemic inflammatory conditions. Depending on the underlying cause and duration of the disease, arthritis may present in acute or chronic forms. Inflammatory processes within the joint can affect the synovial membrane, articular surfaces, capsule, and surrounding tissues, resulting in functional and structural changes.Early clinical manifestations usually include pain in the preauricular region, tenderness, limitation of mandibular movement, and discomfort during chewing. In some patients, swelling, joint sounds, or deviation of the mandible during mouth opening may also be observed. If the disease progresses without adequate treatment, degenerative changes, fibrosis, joint deformity, or even ankylosis may develop.

Accurate diagnosis of TMJ arthritis requires a comprehensive clinical examination supported by modern imaging techniques such as radiography, computed tomography, and magnetic resonance imaging. Laboratory investigations may also be necessary when systemic or autoimmune diseases are suspected. A multidisciplinary approach involving dentists, maxillofacial surgeons, rheumatologists, and other specialists may be required in complex cases.

Timely diagnosis and appropriate treatment are important for reducing inflammation, controlling pain, restoring joint function, and preventing long-term complications. Therefore, the study of the clinical features, diagnostic methods, and therapeutic approaches of TMJ arthritis remains an important issue in modern dentistry and maxillofacial surgery.

Temporomandibular joint arthritis is characterized by inflammatory changes within the joint structures, including the synovial membrane, articular cartilage, joint capsule, and surrounding tissues. The severity of clinical manifestations depends on the etiology, duration of inflammation, degree of structural damage, and the general health status of the patient. In clinical practice, TMJ arthritis may occur as an isolated disorder or as a manifestation of systemic inflammatory and autoimmune diseases.The etiology of TMJ arthritis is multifactorial. Infectious agents may reach the joint through direct extension from nearby tissues, hematogenous spread, or following trauma

and surgical procedures. In addition, rheumatoid arthritis, juvenile idiopathic arthritis, psoriatic arthritis, and other systemic conditions can involve the temporomandibular joint. Mechanical overload and repeated microtrauma may also contribute to the development and progression of inflammatory changes.

The main clinical symptom of TMJ arthritis is pain localized in the preauricular region. Pain may become more intense during chewing, speaking, yawning, or other mandibular movements. Patients frequently report stiffness of the joint, limited mouth opening, difficulty in mastication, and a feeling of discomfort or pressure in the affected area. In acute cases, swelling, local tenderness, and increased temperature of the surrounding tissues may be present. In chronic disease, pain may become less intense, while functional limitation and structural changes become more evident. During clinical examination, the range and symmetry of mandibular movements should be carefully assessed. Deviation of the mandible during mouth opening, tenderness on palpation, joint sounds, and reduced mobility may indicate involvement of the temporomandibular joint. The condition of the masticatory muscles should also be evaluated because muscle spasm and secondary muscular dysfunction may accompany joint inflammation.

Imaging methods play an important role in the diagnosis of TMJ arthritis. Conventional radiography may demonstrate advanced bony changes, whereas computed tomography provides more detailed visualization of the articular surfaces and cortical bone. Magnetic resonance imaging is particularly valuable for evaluating soft tissues, the articular disc, synovial inflammation, and joint effusion. In patients with suspected systemic disease, laboratory tests such as inflammatory markers and specific immunological investigations may be required.

Treatment of TMJ arthritis should be based on the underlying cause and severity of the disease. Conservative management usually includes reduction of joint loading, soft diet, anti-inflammatory therapy, pain control, and physiotherapy. In cases associated with systemic inflammatory disorders, treatment of the primary disease is essential. In selected patients, intra-articular procedures or surgical intervention may be considered when conservative treatment is insufficient.Early diagnosis and appropriate management can reduce inflammation, improve mandibular function, and prevent irreversible joint changes. Therefore, a comprehensive and individualized approach is necessary for successful treatment and long-term preservation of temporomandibular joint function.

Temporomandibular joint arthritis is an important inflammatory condition that can significantly affect mandibular function and the patient's quality of life. Early recognition of clinical symptoms, accurate diagnosis, and timely treatment are essential to prevent structural damage and long-term complications. A comprehensive approach that combines clinical examination, imaging methods, and appropriate therapeutic strategies allows effective control of inflammation and restoration of joint function. Therefore, early diagnosis and individualized treatment remain the key principles in the management of TMJ arthritis.

References:

1. Delpachitra S. N., Dimitroulis G. Osteoarthritis of the Temporomandibular Joint: A Review of Aetiology and Pathogenesis. 2022.
2. Tanaka E., Detamore M. S., Mercuri L. G. Degenerative Disorders of the Temporomandibular Joint: Etiology, Diagnosis, and Treatment. 2008.
3. De Souza R. F., Lovato da Silva C. H., Nasser M., Fedorowicz Z., Al-Muharraqi M. A. Interventions for the Management of Temporomandibular Joint Osteoarthritis. 2012.
4. Spadon-Brito L. G. et al. Effectiveness of Treatments for Temporomandibular Joint Osteoarthritis: A Systematic Review and Meta-analysis. 2025.