

## **MODERN METHODS OF DIAGNOSIS OF NON-ARTICULAR PATHOLOGY OF THE TEMPOROMANDIBULAR JOINT**

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**Abstract:** The main problem of modern health care is that it needs today socially-oriented assistance to different groups of the population, taking into account the modern features of the way of life, taking into account certain economic problems of the population [Suvorova M. N., Zyulkina L. A., Emelina G. V., Kuznetsova N. K., Igidbashyan V. M., 2013]. One of the most important state social tasks is to solve the problems of prevention and treatment of dental diseases in the population

**Key words:** dysfunction, temporomandibular joint, telerentgenogram, computed tomography, magnetic resonance imaging.

The main problem of modern health care is that it needs today socially-oriented assistance to different groups of the population, taking into account the modern features of the way of life, taking into account certain economic problems of the population [Suvorova M. N., Zyulkina L. A., Emelina G. V., Kuznetsova N. K., Igidbashyan V. M., 2013]. One of the most important state social tasks is to solve the problems of prevention and treatment of dental diseases in the population. This situation dictates the need for further research of trends in dental diseases, their dynamics and identification of risk factors [Emelina G. V. et al., 2011, 2012; Suvorova M. N., 2013]. Diseases of the temporomandibular joint (TMJ) are one of the most urgent problems of modern dentistry. This is due, on the one hand, to the frequency of occurrence of TMJ pathology (Petrosov Yu. A., 2007; Korotkikh I. G., 2010; Khvatova V. A., 2011; Shcherbakov A. S. et al., 2013; Semenov R. R. et al., 2013; Ilyin A. A. et al., 2014; Kundu H., 2013; Singh P. P., 2014), and on the other hand – the complexity of diagnosis (Tarasenko S. V. et al., 2004; Lepilin A.V. et al., 2011). The dysfunction of the temporomandibular joint is characterized by a wide prevalence, polyetiology, progradient of this pathology puts it in a number of urgent problems of general medical significance. The variety of concepts and approaches to the analysis of the etiopathogenesis of temporomandibular joint dysfunction causes an increased interest in the search for highly informative diagnostic methods, especially at the stage of preclinical manifestations.

The largest group of patients with TMJ lesions consists of patients with internal disorders, which are defined as a violation of the anatomical and functional relationships between the components of the joint (articular disc, intra-articular ligaments, the head of the lower jaw( LF), capsules) and make up more than 80% of patients with this pathology at a specialized reception (Sysolyatin P. G. et al. 2000). The starting factors of the pathological process in the joint can be different: tooth extraction and prosthetics, unusual movement of the lower jaw, or opening the mouth too wide when eating, yawning, and dental treatment. In this case, some intra-articular ligaments that fix the articular disc are stretched, which leads to its dislocation. Diagnosis of disorders of the soft tissue elements of the joint is carried out using magnetic resonance imaging (MRI), but monitoring the effectiveness at the stages of treatment is difficult. Firstly, MRI is often not recommended, secondly, quantitative measurements of the degree of displacement of the articular disc and its mobility are not carried out, and thirdly, there is a group of patients with claustrophobia, for whom MRI is impossible. In addition, MRI does not always fully reflect the state and position of the articular disc (Landes C., 2000; Emshoff R., 2007). Visualization of the articular disc of the TMJ is possible with the help of ultrasound (ultrasound), but the criteria for the norm of the position and movement of the disc during this study are not developed, as well as the assessment of the condition of the disc in digital terms, there is no method for evaluating the

effectiveness of ultrasound treatment. Publications on the joint use of MRI and ultrasound in the domestic and foreign literature are rare, and the criteria for the use of ultrasound as a supplement to MRI in order to improve the diagnosis of internal disorders are also not developed. Thus, in internal and external disorders of non-particular TMJ pathology, it is most difficult to diagnose patients with non-corrected displacement of the articular disc and secondary osteoarthritis. Their treatment with the help of a mouth guard (occlusive splint), the restoration of normal occlusion does not always lead to normalization of the position of the articular disc (Dolgalev A. A., 2009; Okeson J. P., 2003), and the reposition of the disc by surgical methods without taking into account occlusion often causes a relapse of this pathology. Therefore, it is also necessary to develop new methods for early diagnosis and differentiation of articular and non-articular pathology in TMJ pathology.

The wide prevalence, unusual polymorphism, and difficulties in diagnosis and treatment make diseases of the temporomandibular joint (TMJ) one of the most important health problems of the population. Early diagnosis and treatment of diseases (TMJ) remains one of the unsolved problems of modern dentistry due to their widespread use in dental practice. According to WHO, an epidemiological survey in 35 countries of the world revealed a very high incidence of TMJ diseases. In particular, in people aged 35-45, it exceeded the level of 75%. The etiological factors of the development of dysfunctions (TMJ) usually include anomalies and deformations of the dentition, disorders of the psychoemotional state of a person, defects of the teeth and dentition, violation of the occlusive relationships of the dentition. It is believed that the cause of the development of dysfunction (TMJ) can be one of the factors or a combination of them. In the development of pathology (TMJ) a violation of the function of the masticatory muscles is essential. The influence of occlusion and articulation of teeth and dentition on the development of dysfunction (TMJ) has been studied by many researchers.

The aim is to analyze the possibilities of modern technologies in the diagnosis of functional disorders of the temporomandibular joint.

**Materials and methods.** The study was conducted based on the search and study of original articles on the diagnosis of temporomandibular joint dysfunction in the databases: State Library of Uzbekistan, PubMed, GoogleScholar. The main selection of materials was carried out by keywords.

**Results.** The review considers both conventional and alternative approaches to the diagnosis of various clinical manifestations of temporomandibular joint dysfunction. The article describes the diagnostic value of the analysis of occlusive disorders in an individually adjustable articulator, virtual articulator, T-scan system, the possibilities of telerentgenography, axiography, electromyography, computer and magnetic resonance imaging.

**Conclusions.** The review of literature sources on the problem of diagnosis of temporomandibular joint dysfunction showed a scientifically-based range of diagnostic capabilities of modern dentistry, a trend towards the development of highly informative digital technologies for diagnostic purposes. Due to the variety of etiopathogenetic mechanisms of the development of this disease, the prospect for further in-depth study of this issue is justified.