

EFFECT OF TENS ON EMG ACTIVITY OF MASTICATORY MUSCLES AND DIGITAL OCCLUSAL ANALYSIS IN BRUXISM-PATIENT

Bruxism is a multifactorial and a parafunctional disorder which is characterized by grinding and clenching. Although bruxism is not a life-threatening disorder, it can influence the quality of human life, especially through dental problems, such as tooth wear, frequent fractures of dental restorations, and pain in the orofacial region. Masticatory muscle hyperactivity is a typical sign of bruxism and its mechanism have been explained previously. Transcutaneous electrical neuromuscular stimulation (TENS) has been described in the literature as a form of treatment for bruxism to decrease the pain perception and muscle relaxation.

In the present clinical report, a 26 years old female patient was referred to our clinic for the pain of the masseter area. In clinical examination patient had limited mouth opening (28 mm), masseter muscles pain on palpation and parafunctional tooth wear. The patient was diagnosed as bruxism. Joint sounds were examined with BIO-JVA (Joint Vibration Analyses) to evaluate the TMD (Temporomandibular disorders). Before the application of occlusal splint, in order to increase the limited mouth opening and reduce pain, TENS therapy was applied for 40 minutes with ULF- TENS device (QuadraTENS). To evaluate the immediate effect of TENS, the electromyography (EMG) activity of masseter and anterior temporalis muscles (Bio-EMG 3) and digital occlusal analysis (Tscan 8) were recorded synchronously. Recordings was performed in clenching, protrusion, right and left lateral movement before and after TENS therapy. After the application of TENS therapy, patient had reduced EMG activity in the masseter and anterior temporalis muscles in resting and decreased occlusion time in multibite.

KEYWORDS : BRUXISM, TENS, BIO-JVA, EMG, T-SCAN