ADJUSTMENT OF CANINE-GUIDED OCCLUSAL SPLINT WITH DIGITAL OCCLUSAL ANALYSIS IN A PATIENT WITH BRUXISM

Sleep bruxism is an involuntary activity of the masticatory muscles that is characterized by clenching and/or grinding of the teeth during sleep. The occlusal splint has been frequently used as an effective treatment of sleep bruxism to protect teeth from damage caused by forceful jaw muscle contractions. Occlusal splints redistribute the load borne by the teeth and masticatory system. The relief of bruxism symptoms with splint treatment may be a result of redistribution of overloading, therefore an optimal occlusion with splints should be performed. In the adjustment procedure of occlusal splint with an optimal occlusion, clinicians usually use conventional methods; however, they cannot measure the surface area of contacts, amount of force and contacting time sequence. The use of digital occlusal analysis systems are advantageous to get objective data and to evaluate occlusal forces precisely.

A 27 years old male patient refferred to our clinic with a history of teeth grinding. Based on anamnesis and clinical examination, the diagnosis of bruxism was given with no significant internal joint derangement. A canine-guided occlusal splint was fabricated from self-cure clear acrylic resin. The occlusion of splint was adjusted with T-Scan III to fulfill the requirement of the optimal occlusion criteria. The occlusion was checked in both supine and upright positions so that any change in jaw posture does not create an uncomfortable contact. After adjustment of occlusal splint in centric relation even simultaneous contact with no premature contact was performed with appropriate occlusion and disocclusion time. Left and right force distribution was adjusted as %50,7 and %49,3 respectively. In centric relation, heavier posterior teeth contacts were performed than anterior in occlusion of occlusal splint. This technology provides a new standard of verification for the validation of occlusal splint fabrication with the optimal occlusion.

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