Dent Health Curr Res 2018, Volume 4
DOI: 10.4172/2470-0886-C4-021

MRI-based determination of occlusal splint thickness for temporomandibular joint disk derangement: a randomized controlled clinical trial

Ayman Hegab
Al-Azhar University, Egypt

Objective: This prospective study examined a method using magnetic resonance imaging (MRI) to assess the appropriate effective occlusal splint vertical thickness in the management of disk derangement.

Study Design: Patients were diagnosed as having internal disk displacement of the temporomandibular joint and were divided into 2 groups. Group I (disk displacement with reduction) was subdivided randomly into 2 subgroups: subgroup IA (control group) comprising patients treated with 3-mm-thick splints; and subgroup IB (study group) comprising patients treated with MRI-based splint thickness. Group II (disk displacement without reduction) was subdivided randomly into 2 subgroups: subgroup IIA (control group) comprising patients treated with 3-mm-thick splints; and subgroup IIB (study group) comprising patients treated with MRI-based splint thickness. The primary outcome variables were maximum voluntary mouth opening and visual analogue scale scores for pain. The secondary outcome variable was joint sound. The final sample was composed of 162 patients (Group I = 90 and Group II = 72).

Results: Statistical analysis showed significant improvement of the clinical outcomes in subgroups IB and IIB compared with that in subgroups IA and IIA.

Conclusions: On the basis of MRI measurements and clinical outcome, the present study we recommend 4-mm and 6-mm vertical splint thickness for disk displacement with reduction and disk displacement without reduction, respectively, for 1 year. Magnetic resonance imaging" MRI measurements and clinical outcome, the present study we recommend 4-mm and 6-mm vertical splint thickness for disk displacement with reduction and disk displacement without reduction, respectively, for 1 year.

hegab@mail.com