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Temporomandibular joint adaptations following functional appliance therapy in adolescent males with Angle's class II division 2 malocclusion: A prospective MRI study

Aim: The aim of this study was to compare the temporomandibular joint disc condyle fossa relationship following pre-functional therapy and post-functional therapy in 14 adolescent males with skeletal class II and Angle's class II division 2 malocclusion.

Method: MRI scans were done at pre-treatment (stage-A), pre-functional (stage-B), post-functional (stage-C) for comparing the mandibular condyle, disc fossa relationship using various angular and linear measurements.

Result: Mean value of sagittal concentricity in stages A, B and C were -14.92 ± 12.42 , -6.07 ± 13.14 and 18.00 ± 7.53 , respectively. The mean value of posterior band of disc position in relation to FH plane in stages A, B and C are being 9.35 ± 5.21 , 7.92 ± 5.6 and 1.57 ± 4.87 , respectively. The mean superior joint space in stages A, B and C were 2.60 ± 0.65 , 2.60 ± 0.65 and 3.78 ± 0.5 , respectively.

Conclusion: In the pre-treatment MRI scans, posterior condylar position was found to be statistically significant. The condyle significantly shifted anteriorly within the glenoid fossa after functional appliance therapy. The articular disc remained in normal 11 to 1 O'clock position throughout all the phases of treatment. The superior joint space did not change significantly between pre-treatment and pre-functional stage but it was increased significantly between pre-treatment and post-functional stages. The condyle had significantly shifted anteriorly by 0.89 mm between pre-treatment and post-functional stage.

Biography

Manisha Kamal Kukreja has completed his graduation in Dentistry from PGIDS, Rohtak in 1999 and Post-graduation in Orthodontics in 2003. He is currently working as a Professor in the Department of Orthodontics at PGIDS, Rohtak. He has 50 publications in many national and international journals.

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