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**Mandibular Asymmetry Index in Treated Patients Affected by Temporomandibular Disorders**

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**Objectives** To evaluate any changes in condylar and mandibular ramus height in adult patients affected by temporomandibular disorders (TMD) treated with an upper occlusal splint.

**Methods** This retrospective observational study included 48 patients between 18 and 70 years old diagnosed with TMD according to DC/TMD criteria. They were treated with an occlusal splint in the upper arch for about 12 months. For each patient, the digital dental models were studied to define the occlusal Class according to Angle and cross-bite. OPTs were analyzed using the Habets method to calculate the asymmetry index between the condyles and mandibular branches pre- and post-treatment with the upper occlusal splint. For the statistical analysis, the Shapiro-Wilk normality tests, t-tests, or Wilcoxon tests were used on collected data with R studio.

**Results** The sample presented the absence of dental crossbite in 62.5%, specifically, bilateral in 12.5%, while unilateral crossbite in 22.9% on the right, and 2.1% on the left side.

Condylar height showed a statistically significant difference ( $p=.022$ ), showing a reduction in condylar asymmetry at T1. The measurement of the condylar branch, likewise, showed a statistical significance ( $p=.037$ ), revealing an improvement of the mandibular symmetry in the vertical direction after treatment.

**Conclusions** Patients with TMD treated with an upper occlusal splint, showed a statistically significant improvement in the asymmetry index of the mandibular condyle and rami pre- and post-treatment, while no clinical differences were found regarding the occlusal characteristics.