

OP1 TEMPOROMANDIBULAR JOINT IDIOPATHIC CONDYLAR RESORPTIONS – A CONE BEAM COMPUTED TOMOGRAPHIC BASED CASE-CONTROL STUDY

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**AIMS:** To describe condylar deformation in the temporomandibular joint (TMJ) in subjects with idiopathic condylar resorptions (ICR) and to compare these changes to a healthy TMJ control group.

**MATERIALS AND METHOD:** Cone beam computed tomographic scans were analyzed using anatomical points on the skull to create a reference line. Subsequently, anatomical structures were identified on the mandible to measure the condylar axial angle, the condylar neck angle as well as the condylar width, length, and height in 25 patients with ICR and 25 controls (50 joints in each group). Secondly, cross sections of the TMJs were evaluated for deformity changes and the location of the changes. Ethical committee approval was obtained. The intra-rater reliability was calculated by a Bland Altman plot (continuous data) and by Cohen's kappa coefficient (nominal data). Differences between the groups were tested statistically using unpaired t-tests for continuous data and Fisher's exact test for categorical data.

**RESULTS:** A statistically significant reduction in the condylar axial angle [mean difference (MD): 10.6° 95% confidence interval (CI): 14.1-7.0°], condylar width (MD: 2.0 mm. 95% CI: 2.9-1.0 mm) and height (MD: 4.9 mm. 95% CI: 6.4-3.5 mm) were found for the ICR group compared to the control group. In the ICR group 84 per cent had a posterior condylar neck angle, which was significantly different from the control group (22%). The most common abnormal changes of the TMJs in the ICR group were: non-congruent shape of the condyle-fossa (72%), condylar resorption (56%), non-intact cortex (40%), cavitation defect (22%), and flattening (22%). In the control group condylar flattening was seen in 2%. More than 70 per cent of the joints with deformity changes evaluated in the sagittal and the coronal plane respectively showed deformity changes along the entire condylar surface.

**CONCLUSION:** The results of this study provide evidence to suggest that ICR in the TMJ changes the shape and reduces the size of the condyle when compared to healthy individuals. These findings imply that the locations for the deformity changes are unspecified and that the entire condyle is often affected.