OP11 ASSOCIATION BETWEEN ARTHRITIS-INDUCED CONDYLAR CHANGES AND DENTOFACIAL ASYMMETRY IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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AIMS: Arthritis in the temporomandibular joint (TMJ) in patients with juvenile idiopathic arthritis (JIA) may lead to altered mandibular morphology and dentofacial asymmetry. For many years erosions and degeneration of the TMJ condyles have been regarded as the primary causative factor for this unbeneficial mandibular development in patients with JIA. However, arthritis-induced condylar growth retardation has recently been proposed as an alternative aetiological explanation for this condition. The aim of this study was to investigate the association between condylar radiological appearance and dentofacial asymmetry in patients with JIA.

SUBJECTS AND METHOD: Forty-seven JIA patients and 19 control subjects were included in the study. All patients had a full-face cone-beam computed tomograph performed in line with their treatment. The radiological TMJ appearance was scored by an experienced radiologist. Normal radiological TMJ appearance in a minimum of one TMJ was set as the inclusion criterion for the patients with JIA. The patients were, thereafter, divided into one of three categories based on the radiological appearance of the other TMJ; 1) normal appearance, 2) adaptive deformation, 3) erosive changes. Dentofacial asymmetry was expressed in inter-side ratios and angular measurements. The type of TMJ abnormality was compared to the severity of dentofacial asymmetry. Inter-group ANOVA tests were performed with independent Student's *t*-tests serving as post-ANOVA tests. Intra-rater reliability and smallest detectable differences were accounted for in the data evaluation.

RESULTS: Severe asymmetries were found significantly more often in the two groups of JIA patients with unilateral abnormal condylar appearance (deformation or erosive changes) compared to the JIA group with healthy radiological appearance and the control group. In contrast, the JIA patients with normal bilateral TMJ appearances appeared similar to the control group for all outcome variables.

CONCLUSION: Mandibular development in JIA patients with condylar deformations was reduced to a similar degree as in patients with erosive condylar changes. None of the two types of condylar abnormality was associated with a greater reduction in mandibular development.