Objectives The aims of this study are to evaluate the dentofacial morphology of patients with rheumatoid arthritis (RA) and to compare the morphological data with those of healthy age- and sex-matched control subjects.

Methods Twenty-seven RA patients (mean age, 45.77±8.64 years) and 25 healthy subjects (mean age, 44.80±8.24 years) participated in this prospective study. Clinical and functional evaluations of the RA patients were assessed. The erythrocyte sedimentation rate, C-reactive protein level, rheumatoid factor level, and anti-citrullinated peptide antibodies (ACPA) titers of RA patients were determined, and DAS28 scores were calculated. Linear and angular measurements were performed on cephalometric tracings and condylar erosion was evaluated on lateral panoramic radiographs. Statistical comparison of the two groups was performed with an independent samples t test. Pearson correlation analysis was used to assess the relationship between the clinical and laboratory parameters.

Results Based on DAS28 scores, no patient with RA was in the remission period, 3 patients had low, 23 had medium, and 1 had high disease activity. Sixteen (59.26 %) patients with RA had positive ACPA titers. Lateral cephalometric radiographs revealed statistically significant difference between...
the two groups for the measurement of U1–NA (millimeter; p00.047), U1–NA (degrees; p00.031), L1–NB (degrees; p00.030), IMPA (L1–MP; p00.001), interincisal angle (U1–L1; degrees; p00.022) and midface length (Co–A; millimeter; p00.033). A significant positive linear correlation was found between disease duration time and DAS28 scores (r00.066, p00.040).

Conclusions Dentoalveolar effects of RA on dentofacial morphology are more significant than the skeletal effects. Future studies with larger sample sizes are required to evaluate the exact effects of RA on dentofacial morphology.

Clinical relevance Clinicians should consider the fact that RA-associated dentoalveolar changes can be observed and may affect the orthodontic treatment process.

Keywords Rheumatoid arthritis . Dentofacial morphology . Cephalometry