

OP5 CONDYLAR RESORPTION IN ORTHOGNATHIC PATIENTS AFTER MANDIBULAR BILATERAL SAGITTAL SPLIT OSTEOTOMY. A SYSTEMATIC REVIEW

Sophia Mousoulea¹, Dimitrios Kloukos², Dimitrios Sampaziotis¹, Theodosia Vogiatzi³, Theodore Eliades⁴, ¹Department of Orthodontics, 251 Air Force General Hospital, Athens, Greece, ²Department of Orthodontics and Dentofacial Orthopedics, Faculty of Medicine, University of Bern, Switzerland, ³Private practice, Athens, Greece and ⁴Clinic of Orthodontics and Paediatric Dentistry, Center of Dental Medicine, Faculty of Medicine, University of Zurich, Switzerland

AIMS: To systematically search the literature and assess the available evidence regarding the incidence and quantification of condylar resorption following bilateral sagittal split osteotomy (BSSO) of the mandible in orthognathic patients.

MATERIALS AND METHOD: Electronic database searches of published and unpublished literature were performed. The following electronic databases with no language and publication date restrictions were searched: Medline (via Ovid and PubMed), Embase (via Ovid), the Cochrane Oral Health Group's Trials Register and Central. Unpublished literature was searched on ClinicalTrials.gov, the National Research Register, and Pro-Quest Dissertation Abstracts and Thesis database. The reference lists of all eligible studies were handsearched for additional studies. Two review authors performed data extraction independently and in duplicate using data collection forms. Disagreements were resolved by discussion or the involvement of an arbitrator.

RESULTS: From the 308 articles identified by the search, and after application of the specific inclusion and exclusion criteria, 16 studies were considered eligible for inclusion in this review. Only one randomized controlled trial was identified, most likely due to the inherent limitation and difficulty of randomizing surgical interventions. From the remaining 15 eligible studies, 13 were of retrospective and two were of prospective design. All studies were assessed for their methodological quality and reporting. The level of evidence was found to be from poor to moderate. The lack of standardized protocols among studies and the high amount of heterogeneity precluded a valid interpretation of the actual results through pooled estimates. There was substantial consistency among studies, however, that young, female patients with mandibular deficiency and a high mandibular plane angle, submitted to surgical counterclockwise rotation of mandibular segments are more prone to a higher risk for condylar resorption after BSSO.

CONCLUSION: Although in most cases the level of existing evidence ranged from poor to moderate, there is considerable agreement between studies that condylar resorption should be taken into account as a potential post-surgical complication after BSSO. Its multifactorial aetiology, including patient-related and surgical factors remains unclear and requires further investigation to draw reliable conclusions.