

ABSTRACT BOOK

21. CONGRESS

OF THE EUROPEAN
ASSOCIATION
FOR CRANIO-MAXILLO-FACIAL SURGERY

SEPTEMBER 11th - 15th 2012



xxi Congress of the
European Association for
Cranio-Maxillo-Facial
Surgery
11 - 15 September 2012
Dubrovnik, Croatia

A tribute to John Lowry

Under the Auspices of the
President of the Republic of
Croatia, Ivo Josipović

www.eacmfs2012.com

O-1109

ANCILLARY SURGICAL TECHNIQUES TO ACCELERATE ORTHODONTIC TREATMENT IN THE MANDIBLE IN PREPARATION FOR ORTHOGNATHIC SURGERY

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Object: Patients with severe hyperdivergent Class III malocclusions have narrower mandibular symphysis and therefore a higher risk of root resorption and periodontal damage secondary to anterior tooth decompensation.

The aim of this study was to describe in the first surgical phase the use of anterior segmental dento alveolar mandibular distraction osteogenesis.

Materials and methods: In 9 patients affected by severe dento-skeletal Class III and severe anterior incisal compensation and crowding we performed a complete mandibular subapical osteotomy in general anaesthesia and a tooth born distraction device was positioned. In all cases surgically assisted rapid maxillary expansion was performed simultaneously (SARPE).

The latency period was 3-5 days, the distraction rate was 1 mm per day. We did lateral skull telerradiography at the beginning and at the end of the distraction. After an average period of 60 days of stabilisation the mandibular distractor was removed. We compare the pre-op and post-op lower incisor mandibular angle plane (IMPA) to find the average decompensation.

Results and discussion: Incisor decompensation was obtained in all patients.

In all patients we obtained a sufficient space to do alignment with no tooth extractions. Average time of orthodontic pre-surgical treatment was 14 months.

Mild root resorption and minimal gingival recession was seen in only one of the patients, but far less than what would have been expected after the equivalent tooth movement through orthodontic treatment.

The advantages of this technique are: reduce orthodontic time, avoid tooth extractions, reduce periodontal and root resorption risks and allow complete incisor decompensation.

O-1110

DECOMPENSATION BY MESIALIZATION OF THE WHOLE LOWER DENTITION IN LOWER SPACING CASES

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In Class III mandibular prognathic patients, dentoalveolar compensation is typically characterized by linguoversion of anterior teeth in the lower arch. To obtain satisfactory postsurgical results, labioversion, that is, decompensation must be achieved. Labioversion of the lower anterior teeth will increase the initially small IMPA (Incisor Mandibular Plane Angle). But this type of teeth movement is difficult

because of pressure from the lower lip.

If there is no crowding in the lower anterior teeth, labioversion will result in spacing. To close this space, molar mesialization, instead of anterior teeth retraction, is needed. If spacing already existed in the original state, the amount of necessary molar mesialization will increase for the decompensation of the lower anterior teeth. Such teeth movement increases difficulty to achieve with conventional orthodontic mechanics.

Recently, TADs (Temporary anchorage devices) that allow large amounts of molar mesialization possible were developed. But the biomechanics related with TADs is fairly different from conventional mechanics.

Moreover, the recently developed "Surgery First Technique" reduces time for the treatment above. With presurgical orthodontics, labioversion of the anterior teeth takes much time due to pressure from the lower lip. In contrast, in the "Surgery First Technique", it is done after surgery; therefore, it takes less time.

This presentation will discuss the mesialization of the whole lower dentition.