

24° Congresso Nazionale
Collegio dei Docenti Universitari
di discipline Odontostomatologiche



LA SFIDA ESTETICA IN ODONTOIATRIA



6-8 aprile 2017
Milano

Centro Congressi San Raffaele





JO

1
—
9

JOURNAL OF
OSSEOINTEGRATION

periodontics and prosthodontics

Versione italiana



ISSN p: 2036-413X
ISSN e: 2036-4121
gennaio-aprile 2017, 9 (1)
www.journalofosseointegration.eu

mandible was repositioned forward with remission of neck pain. The stability of the treatment is performed by passive aligners and the proper application of anti-squeezing protocol.

Effectiveness of orthodontics-orthognathic surgery combined treatment: electromyographic and clinical study

Garagiola U., Colangelo B., del Rosso E., Ghiglione V., Grossi G.B.

Department of Biomedical, Surgical and Dental Sciences
Maxillo-Facial and Odontostomatology Unit
Fondazione Cà Granda IRCCS Ospedale Maggiore Policlinico
University of Milan, Italy

Aim: Orthognathic treatment aims to normalize the skeletal relations of the masticatory apparatus by achieving a class I molar configuration. To achieve this, resorting to a combination of orthodontic and orthognathic surgery is often necessary. Evaluating the outcome of the intervention involves assessing both the occlusal, periodontal, aesthetic results and the functional recovery of the rehabilitated district. Clinical parameters that may be recorded for this purpose comprise the masticatory efficiency; the maximum bite force, the number and distribution of the occlusal contacts, the functionality of the temporomandibular joint, the maximum range of mandibular movements. Additionally, the neuromuscular post-surgical recovery may be assessed with electromyography (EMG). This study evaluates retrospectively if the initial electromyography (EMG) status of patients who underwent orthognathic surgery correlates with the extent of post-surgical EMG functional recovery.

Methods: Clinical records were selected among those of patients who underwent orthognathic surgery through Le Fort I and/or sagittal osteotomy of the mandibular ramus to correct 20 patients with skeletal dental class III malocclusions. Other inclusion criteria were: absence of any clinical signs indicating a TMJ disorder, pre-surgical EMG recording performed the day before surgery; post-surgical EMG recording performed not earlier than one year after surgery, and after completion of the post-surgical orthodontic treatment. Ten clinical records concerning skeletal dental class I healthy subjects, not showing clinical signs of TMJ disorder were selected to collect EMG data for further comparison with those of the treated patients. EMG data had been collected according to standard measuring procedures with single-use, bipolar electrodes applied on the patient's skin. EMG measurements concerned the activity of the anterior temporal muscles and of the two masseter muscles in three conditions: at rest, with teeth in occlusion

(clench 1 condition) or with teeth clenching on cotton rolls (clench 2 condition).

Results: Retrieved clinical records concerned 20 patients, 5 men and 15 women, between 20 and 44 years (average: 30.1 ± 8.2). All subjects had been treated by the same surgeon. Details about patients and their surgeries are respectively. All patients had been subjected to post-surgical intermaxillary fixation, as surgery did not involve any rigid internal fixation of the mandibular sections. No patients in the present study showed any pre-surgical peculiarity or post-surgical compliances as it had been observed in previous studies. A significant increase of the average EMG activity after orthognathic corrective surgery was observed ($p=.01$). The post-surgical increase of EMG values showed a negative correlation trend with those collected before surgery ($r=-.38$, clenching on teeth; $r=-.33$, clenching on cotton rolls). None of the independent variables had any effect on the post-surgical outcome.

Conclusions: Results of the present study confirm that corrective orthognathic surgery improves the masticatory muscular activity force of patients who present class III malocclusions, and that such improvement can be objectively assessed by performing EMG measurements. Additionally, they suggest that patients whose masticatory muscle force benefits more from orthognathic surgery are those displaying the lowest pre-surgical EMG activity. Such hypothesis should be further investigate with proper, controlled prospective clinical studies. If it were proved true, pre-surgical EMG might be used to screen patients before surgery in order to predict if the surgical outcome would imply only an aesthetic improvement or also a muscular benefit.

Polarized light as valid alternative treatment of temporomandibular disorders

Garagiola U., Cressoni P., Soldo R., Farronato F.

Department of Biomedical, Surgical and Dental Sciences,
Maxillo-Facial and Odontostomatology Unit,
Fondazione Cà Granda IRCCS Ospedale Maggiore Policlinico
University of Milan, Italy

Aim: The objective was to assess the effectiveness of a therapy using low energy polarized light (PL) devices, in reducing pain, promoting healing of soft tissue injuries and reducing inflammation, improving function and quality of life of the temporomandibular disorders (TMD) patients.

Methods: 35 patients (20 female), with TMD diagnosed using standard criteria, were assessed using electromyography (EMG) and computerized mandibular scan (K6). 8 minute PL therapy has been applied, 3 times per week for 4 weeks. No other treatment was given and patients were asked to refrain from taking analgesics during the course of the study. Polarized