

EARLY POSTEXTRACTION IMPLANTS MAY ACHIEVE OSSEOINTEGRATION IN THE ABSENCE OF PRIMARY STABILITY. A PILOT STUDY

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AbstractPurpose: This pilot study aimed at investigating if implants without primary stability may osseointegrate and support functional prosthesis. **Materials and Methods:** Patients received one Trabecular Metal implant each in posterior sockets two months after tooth extraction, combined with xenograft and a resorbable membrane. Implants were divided in three groups, based on the primary stability assessed by resonance frequency analysis. Implant stability quotient (ISQ) was measured at placement, and re-assessed five months later (at uncovering), and after 6 months of function. Marginal bone loss was radiographically evaluated. After checking normality of the distributions, Student's t-test was used for statistical comparisons. **Results:** 25 consecutive patients were included. At placement, mean ISQ significantly differed among groups, being undetectable (n=8 implants), 65.00 ± 4.25 (standard deviation, n=6) and 77.95 ± 3.13 (n=11) in the very low, medium and good primary stability groups, respectively. After five months of healing, mean ISQ had increased to >70 in all groups. All implants successfully osseointegrated and were restored as planned. Six months after loading, no significant difference in mean ISQ (range 79.19-81.92), and in mean marginal bone level change (range 0.21 to 0.28 mm) was observed among the three groups. **Conclusion:** Rehabilitation of wide postextraction defects may achieve successful outcomes even in the absence of primary stability.

HARD AND SOFT TISSUE CHANGES IN THE REHABILITATION OF THE ANTERIOR MAXILLA WITH TRIANGULAR SHAPE NECK IMPLANTS: A RETROSPECTIVE CLINICAL STUDY WITH A ONE-YEAR FOLLOW UP

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Aim. Aim of this retrospective study was to evaluate the one-year clinical and radiographic outcomes of implants with a triangular shaped neck inserted immediately after tooth extraction in esthetic zones. **Materials and Methods.** Patients in which immediate postextraction implants were placed and restored in the anterior maxilla, who underwent a Cone Beam Computed Tomography (CBCT) at baseline and after 12-16 months were included. The socket was preserved using deproteinized bovine bone to fill the buccal gap, and a resorbable collagen membrane. One-year implant survival and prosthesis success were evaluated. Hard and soft tissue stability was assessed by measuring various parameters on CBCT images. Clinical evaluation was also performed and Pink Esthetic Score (PES) assessed. Data from baseline and one-year follow-up were statistically compared using paired tests and a significance threshold of $p=0.05$. **Results.** Twenty patients (13 males, 7 females, mean age 50.42 ± 11.35 years) were included. Each contributed with one implant. No implant was lost. A significant improvement in PES was detected. Excellent hard and soft tissue preservation was observed after one year of function. **Conclusion.** Immediate placement of implants with a triangular shaped neck after tooth extraction, can be a suitable solution even for areas with a high aesthetic demand, such as the anterior maxilla.

CHRONIC MIGRAINE-CEPHALGIA RELATED TO TRIGEMINAL ARTERY: A CASE REPORT OF INNOVATIVE REGENERATIVE APPROACH

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Persistent trigeminal artery (PTA) originates from the posterior bend or lateral wall of the intracavernous carotid artery and is the most common occurring type of remnant primitive fetal arteries. In literature, there is limited number of reports on migraine-cephalgia (MC) associated with coexisting PTA. The primitive anastomose arteries that fully belong to the intracranial arterial vascular system are not supposed to perform any supportive functional activity; usually they are subjected to normal biological decay caused by the aging process and metabolic dysfunctions. The hypothesis suggests that these primitive fetal arteries such as PTA may not undergo a fast and structural deterioration but they might be active contributors to a series of mechanisms that can cause a variety of idiopathic complaints. Consequently this would bring a different therapeutic approach other than their surgical removal, which is the accepted option today as a solution for these problems. In this case report, a chronic unilateral MC due to coexisting PTA adjacent to trigeminal nerve is presented. The caliber and location of the PTA was confirmed by a CT-Angiography. The MC treatment was achieved by administration of bio-identical testosterone, human placenta extract (HPE), b-nicotinamide adenine dinucleotide (NADH) and low dose amlopidine.

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DISCLOSURE: ALL AUTHORS REPORT NO CONFLICTS OF INTEREST RELEVANT TO THIS ARTICLE.

COMPUTER-BASED QUANTIFICATION OF AN ATRAUMATIC SINUS AUGMENTATION TECHNIQUE USING CBCT

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Our group recently developed an innovative maxillary sinus augmentation technique without the need of sinus membrane elevation, termed as "IPG" DET protocol. This technique utilizes autologous platelet concentrates (including platelet rich plasma (PRP), platelet rich fibrin (PRF), growth factors (GFs) and CD34+ stem cells), together with bone grafting materials positioned through intentionally perforated Schneider's membrane for flapless implant placement. This study aimed at evaluating the performance of "IPG" DET protocol in terms of new bone formation and implant stability at 8 months post-op. This prospective study consisted of forty-eight patients with a mean age of 52.8 years. A total of eighty-five implants were placed with "IPG" DET protocol in combination with autologous platelet concentrates. CBCT (cone beam computed tomography) was performed at two different time points: pre-operatively and at 8 months post-op. CBCT images were then compared by an intensity-based image algorithm to assess the newly formed bone in terms of gray scale values. Additionally, implant stability quotient (ISQ) was used to estimate implant osseointegration and success rate. The average new bone formation was 5.9 ± 0.9 mm² per implant. All implants successfully osseointegrated, and ISQ ranged 62.3-71.7. According to the results of this study, "IPG" DET protocol in combination with autologous platelet concentrates is a successful technique for implant-supported rehabilitation of the edentulous posterior maxilla without the need of sinus floor elevation.

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TREATMENT OF A PERI-IMPLANTITIS DEFECT USING A MINI-INVASIVE SURGICAL APPROACH (MISA) AND DEPROTEINIZED BOVINE BONE MINERAL WITH 10% COLLAGEN: A CASE SERIES

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This pilot study evaluates the effectiveness of the Mini-Invasive Surgical Approach (MISA) in the treatment of peri-implantitis defect. MISA is based on the use of the deproteinized bovine bone mineral with 10% collagen in combination with a minimal flap. The main principle is the elevation of a flap to access to the peri-implantitis defect only on one side (palatal aspect), leaving the opposite site intact. The study was designed as a non-controlled, non-randomized pilot study. In 10 consecutive subjects, 10 implants with diagnosis of perimplantitis were selected. In all the treated sites, primary closure was obtained at completion of the surgical procedure. No relevant pain, edema and hematoma were noted. The reported surgical approach resulted in significant clinical and radiographic improvements while limiting patient morbidity. After 1-year follow-up minimal mucosal recession, probing depth reduction and radiographic bone gain were noted.

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IMPLANT SITE PREPARATION USING ULTRASONIC TECHNIQUE VS. CONVENTIONAL DRILLING: THREE-YEAR FOLLOW-UP OF A SPLIT-MOUTH STUDY

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The aim of this split-mouth study was to evaluate the effectiveness of ultrasonic technique for implant site preparation when compared with the conventional drilling technique. A total of 98 bilateral single implants were placed in 49 patients. For each patient, traditional drilling technique was used at one side (control) and ultrasonic technique was used at the other side (test). Prior to insertion all implants were carefully embedded in liquid plasma rich in growth factors. Clinical and radiographic results were assessed after three years of function. The same implant success rate (95.9%) was recorded for both groups in a three year follow up, with only two implants lost per group. At the last follow-up the mean peri-implant bone loss was 0.42 ± 0.14 mm and 0.33 ± 0.13 mm in the control and test group, respectively. The difference was significant ($P < 0.001$). In conclusion, ultrasonic technique for implant site preparation showed similar clinical performance but better preservation of the peri-implant bone. Together with the known characteristics of safety and reduced bleeding at the surgical site the ultrasonic technique represents a valuable alternative to traditional drilling.

COMPARISON OF CONVENTIONAL ORTHOGNATHIC SURGERY AND “SURGERY-FIRST” PROTOCOL: A NEW WEAPON AGAINST TIME

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The aim of this literature review article is to evaluate the new surgical technique “Surgery-First” and compare it with the conventional orthognathic surgery in terms of treatment length, patient satisfaction and post-surgical stability. The goal is to compare the pro and cons of the two techniques and to determine which technique can offer more efficient results.

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NARROW SINGLE TOOTH IMPLANTS FOR CONGENITALLY MISSING MAXILLARY LATERAL INCISORS: A 5-YEAR FOLLOW-UP

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Introduction: The maxillary lateral incisor epidemiologically represents the second most common congenitally absent teeth. In literature, different approaches have been proposed, such as canine teeth substitution, traditional prosthetic rehabilitation, adhesive restoration or single-tooth implant. The aim of this investigation was to evaluate the clinical and radiographical effectiveness of narrow single tooth implant treatment for missing maxillary lateral incisors. **Materials and Methods:** A total of 11 subjects, in seven cases bilaterally, were treated in the Department of Medical, Oral and Biotechnological Sciences, University “G. D’Annunzio” of Chieti-Pescara, with a radiographical follow-up at 5 years from the loading. **Results:** At the follow up, no bone defects or pathological gingival probing were present around the peri-implant tissues. No mechanical complications, such as loss of the crown fixation screws or fracture, were reported. **Conclusions:** Narrow implants represent a predictable optional treatment for maxillary lateral incisor restoration, with a high-level aesthetic and functional outcome of the rehabilitation.

SOFT TISSUE AUGMENTATION BY MEANS OF SILICON EXPANDERS PRIOR TO BONE VOLUME INCREASE: A CASE SERIES

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In guided bone regeneration (GBR) interventions, the incorrect manipulation of the soft tissues may lead to exposure of graft due to insufficient amount of tissue needed for a free-tension flap closure. The aim of this investigation was to evaluate the clinical and radiographical effectiveness of soft tissue augmentation in aesthetic areas. A total of 6 patients were treated in the Department of Medical, Oral and Biotechnological Sciences, University “G. D’Annunzio” of Chieti-Pescara, with a radiographical follow-up at 1 year from the loading. At the follow up, no soft tissue dehiscence was observed This study presented an innovative approach for soft tissue augmentation prior to bone regeneration in aesthetic areas. Augmentation of soft tissue with a silicon expander device before bone regeneration is a simple technique and also allows to obtain greater bone tissue in selective cases.

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CORTICAL BONE LAMINA APPROACH FOR MANDIBULAR LARGE CYSTIC DEFECT: A CASE REPORT

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Purpose: This study evaluated the bone healing of the residual cavity after enucleation of mandibular inflammatory cyst by using only a coverage with cortical bone barrier. **Patient and Methods:** This study was conducted at the dental clinic of the Medical, Oral and Biotechnology Sciences Department of Chieti in February 2015. A 36-year-old male patient, D.G.M., had a mandibular inflammatory cyst (with a diameter of about 33.9x20.3mm) treated by surgical enucleation, subsequent apicectomy of the elements involved (4.1, 3.1, 3.2, 3.3, 3.4) and coverage of residual defect with a porcine cortical bone barrier (Bone Lamina). Postoperative clinical and radiographic examinations were performed at 3 and 9 months (panoramic radiographs) and at 12 and 24 months (CBCT Dental scan) respectively after cystic enucleation surgery. **Results:** Uneventful healing and filling of the residual cavity was carried out. The computed analysis of the postoperative radiographs showed bone regeneration of cortical in terms of thickness increase at 12 and 24 months and showed mean values of reduction in size of the residual cavity of 92.1% after 12 months and 96.53% after 24 months. The volume of residual cavity (3123 mm³ in 2015) was seen to decrease (243.6mm³ at 12 months and 108.5 mm³ at 24 months). **Conclusion.** In this case report the Bone Lamina prevented tissue collapse within the defect and could maintain structural integrity throughout the period required for bone regeneration; it also has the advantage of resorbable membranes, avoiding a second surgery for its removal.

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EVALUATION OF THE EFFECTIVENESS AND SAFETY OF PEPPERMINT PEEL (PMP) SOFT PEELING FOR SKIN AGEING

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Turning to peeling in a dermatological sphere is extensively common and has been used for a long time. From the use of single acids moving on to the so-called compound peelings (associations of more than one substance in the same product) and the combined peelings which take advantage of the action of different substances in a synergistic manner (different products are applied sequentially) in order to best guarantee a greater effectiveness of the treatment for the recommended target. Superficial peelings, combined and not, have led to a drastic reduction in the percentage of incidence of adverse events typical of medium and deep peels. Nevertheless, it has been demonstrated that superficial peels bring about a rejuvenating effect through the mechanical stimulation of the Skin Stress Response System (SSRS), system designated to repairing the damaged tissue and restoring of the normal homeostasis. Clinical trials aims to evaluate the effectiveness and safety of the peppermint peel (PMP) medical device in subjects with different ageing expressions both in qualitative terms (different blemishes such as discolouration, fine wrinkles, elastosis, atony and skin inelasticity, laxity, scarce superficial hydration) and in quantitative terms (degree, extension and number of lesions). A non-controlled multi-centric clinical trial was done in 121 subjects. The use protocol calls for a session every 2 weeks for a total of 4 sessions. Subjects were evaluated before each subsequent session at the first and at 2-4-8 weeks of the fourth and last treatment. During the study there were no adverse events. Only a minimal scurfy flaking and a very slight redness were reported. From an effectiveness point of view, the percentage of therapeutic failure, judged with a score equal to or greater than 4 or 5 in Global Aesthetic Improvement Scale (GAIS) scale was 0%. Best score was obtained in subjects ranging in ages between 38 and 57 (2.02) and in women (2.02) years, while the less satisfactory one was obtained in males (2.14). The study has demonstrated that PMP and the proposed protocol are effective and safe to treat subject with skin signs of chrono and photo ageing, thanks to its capabilities of carrying out a mechanic action indicated as a coadjuvant in the treatment of the dermoepidermic revitalisation through chemical exfoliation and hydration.

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HYALURONIC ACID FILLERS IN LIP AUGMENTATION PROCEDURE: A CLINICAL AND HISTOLOGICAL STUDY

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Several approaches have been proposed for soft tissue augmentation using injectable materials for lip and soft-tissue augmentation due to their physical and biological properties. Hyaluronic acid represents a natural component of the connective tissues, related to wound healing and skin regeneration. The aim of this research was to investigate the clinical and histological effectiveness of cross-linked hyaluronic acid for lip augmentation. A total of 8 patients were treated for lip augmentation with a clinical follow up of 60 days. After this period a histological evaluation was performed to evaluate the healing of the treated regions. The healing phase reported no inflammatory response, tissue contractions and no local flogistic evidence in the treated areas, where the filling volume appeared maintained. The 60 days histological evaluation showed evidence of filler resorption with few infiltrated inflammatory cells. The clinical and histological findings suggested that cross-linked hyaluronic acid represents a safe and effective tool for lip augmentation.

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NON-SURGICAL TREATMENT OF LOWER EYELID FAT PADS WITH AN INJECTABLE SOLUTION ACID DEOXYCHOLIC BASED

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The use of sodium deoxycholate (DC) in aesthetic medicine for reducing unwanted localized fat deposits is a procedure in use for over 30 years. Lower eyelid fat pads are one of the main imperfections of the middle third of the face. The purpose of the study is to assess the effectiveness and the safety of a second-generation injectable solution containing sodium deoxycholate 1.25% (DB125) for the treatment of lower eyelid fat pads. A multi-centre observational prospective study was carried out between May and October 2017. Patients presented various forms and degrees of lower eyelid fat pads. They were treated monthly apart until the clinical result was obtained. The technique was explained. The study treated 120 patients for a total of 306 infiltration sessions (average 2.55 per patient). Patients gave the effectiveness of the treatment an average score of 7.125 (7.28 in men and 7.03 in women). The greatest successes were in patients under the age of 40. The medical evaluation showed therapeutic success in 85.83%. Adverse events were reported. The results of the study are encouraging since they have shown a therapeutic success from both the viewpoint of specialist medical assessment and from the personal, subjective view of the patients treated. This success did not show any significant differences between sex. On the other hand, outcome has been better in the younger age groups. The high degree of effectiveness shown in the study was associated with a minimal occurrence of adverse events. Therefore DB125, used with the right technique and dosage, is effective and safe to treat lower eyelid fat pads.

***IN VITRO* INTERFACE CHANGES OF TWO VS THREE NARROW-DIAMETER DENTAL IMPLANTS FOR SCREW-RETAINED BAR UNDER FATIGUE LOADING TEST**

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The mechanical failure of a dental implant is clinically related to a prosthetic overload dissipated on the fixture/abutment complex. The aim of this investigation was to evaluate the fracture strength of two vs three narrow-diameter dental implant configurations for screw-retained bars. Different configurations of screw-retained bars on two narrow-diameter dental implants (Group I) and screw-retained bars on three narrow-diameter dental implants (Group II) were tested under a static fracture loading. A total of 20 specimens, 10 for each group were evaluated. The fracture loading point was significantly higher in Group I ($p < 0.05$). The experimental groups reported high levels of fracture strength under loading that encourages the clinical application of screw-retained bars supported by multiple narrow-diameter implants.

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DISCLOSURE: ALL AUTHORS REPORT NO CONFLICTS OF INTEREST RELEVANT TO THIS ARTICLE.

SHORT IMPLANTS AND PLATELET-RICH FIBRIN FOR TRANSCRESTAL SINUS FLOOR ELEVATION: A PROSPECTIVE MULTICENTER CLINICAL STUDY

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Background: Inadequacy of residual bone height due to sinus pneumatization and alveolar bone remodeling could jeopardize the option for implant supported rehabilitation in posterior atrophied maxillae. **Aim of the study:** The aim of this prospective, multi-centric clinical study is to investigate and assess the survival rate of short implants in single posterior maxillae atrophied sites with adjacent natural teeth, when augmented with leukocyte and platelet-rich fibrin (L-PRF) alone using a minimally invasive trans-crestal approach. **Materials and Methods:** Seventy-four short implants were installed in 53 patients with residual bone height (RBH) ≤ 4 mm using piezoelectric ultrasonic guided sinus elevation by transcrestal approach. Six perforations of the sinus membrane occurred (11.3% perforation rate), out of which five were managed by using just L-PRF as grafting material. Postoperatively, the implants were clinically evaluated for survival rate. The cumulative implant survival rate was 93.3% at the end of first year of follow-up. Considering 2 dropouts by the end of 2nd year follow-up, and no further implant loss, the cumulative survival rate remained 93.3% up to 5 years follow-up period. **Discussion:** The use of L-PRF plug as grafting and careful preparation of osteotomy site with piezoelectric ultrasonic device could allow for simultaneous crestal sinus floor elevation and short implant installation in posterior atrophied maxillae with RBH ≤ 4 mm, extending the indications for implant rehabilitation.

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ABSORPTION AND DIFFUSION OF A 645 NM DIODE LASER BEAM IN THE BONE. AN *EX VIVO* STUDY

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The present preliminary *ex vivo* study aims to assess the possible interaction between complex biological systems and laser light, through irradiation of different hard tissue samples. A 645 nm wavelength diode laser was adopted to perform the present evaluation. Due to known similarities to human tissues, swine tissue samples were used. Two samples of cortical bone measuring 4.4 mm and 4.7 mm of thickness and 2 samples of spongy bone measuring 2.45 mm and 2.9 mm were harvested for the analysis of hard tissues. Mean absorption values were as follows: 128.82 mW standard deviation 8.74 for 2.45 mm spongy bone sample; 132.34 mW standard deviation 7.66 for 2.9 mm spongy bone sample; 140.59 mW standard deviation 5.97 for 4.4 mm cortical bone sample and 152.20 mW standard deviation 3.36 for 4.7 mm mucosa and cortical bone sample. Red-light laser with 645nm wavelength has the ability to reach cells in each layer of measured tissues.

BONE DECAY AND BEYOND: HOW CAN WE APPROACH IT BETTER

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Osseo-degeneration is a disorder related to several factors, that may lead to the disruption of several skeletal regions providing support, such as the femur head, the vertebrae and the alveolar bone. The functional condition can be restored by means of grafting procedures, using different materials: calcium powder, xenografts, ceramics and metals. Such procedures aim at reforming an adequate bone volume and strength, that is necessary to support loading forces. Bone regeneration requires that the basic biological principles of osteogenesis, osteoinduction, osteoconduction and biocompatibility are followed. The success of regenerative procedures may depend on the inner structural, mechanical and metabolic condition of the host's bone on which implants should be inserted, on the surgical technique, and on the biomaterial used. Among these, the aging process of the patient appears to be relevant. It can be associated with metabolic disease leading to systemic functional decay, which involves a gradual steady decline of hormonal, immune function and osteo-metabolic activity. The latter can affect the positive outcomes of bone reconstruction and implant therapy. This review will analyze the biological and physiological factors involved in the bone tissue break-down, such as the influences from gut microbiome unbalance and the consequent metabolic, endocrine, immune dysfunctions, the surgery procedures and the quality of the grafting material used. The decline of bone architecture and strength should be corrected by using an appropriate clinical regenerative approach, based on a bio-endocrine, metabolic and immunologic know-how. The final characteristics of the regenerated bone must be able to support the loading forces transmitted by the implants, independent of the body location, and should be individualized according to the different condition of each patient.

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DISCLOSURE: ALL AUTHORS REPORT NO CONFLICTS OF INTEREST RELEVANT TO THIS ARTICLE.

A SYSTEMATIC REVIEW ON PERSISTENT TRIGEMINAL ARTERY, IN SEARCHING FOR A THERAPEUTIC SOLUTION TO IDIOPATHIC AND UNRESPONSIVE TRIGEMINAL NERVE INFLAMMATIONS AND MIGRAINES

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The rarely diagnosed persistent trigeminal artery (PTA) originates from the posterior bend or lateral wall of the intracavernous carotid artery and is the most common occurring type of remnant primitive fetal arteries. Even if PTA is uncommon, information and awareness about it could be of great help for clinicians dealing with cranial vascular imaging and operating this region. In addition, it could give a supporting response to the presence of a wide range of idiopathic and unresponsive disturbs that sometimes are erroneously interpreted and treated. There are very few published scientific reports of coexisting PTA and unilateral trigeminal neuralgia and migraine-cephalgia (MC). In this review we describe few reported and unreported cases regarding the manifestation of unresponsive trigeminal neuralgia and migraine due to the presence of PTA. Patients usually present with a clinical symptomatology with unstable blood hypertension, pain of typical trigeminal neuralgia and MC that cover unilaterally the occipital area over the second and third divisions of the nerve. The outbreaks may often become more severe during physical exertion, stress and hypertension. Angio-MRI may reveal the PTA with an occasional occurrence of parietal cavernoma. We also describe a case of chronic left MC case associated with an adjacent PTA close to the trigeminal nerve position. The size and location of the PTA was confirmed by a CT-Angiography. The MC was safely treated by bio-identical testosterone, human placenta extract (HPE), b-nicotinamide adenine dinucleotide (NADH) and low dose amlodipine. It is hypothesized that these types of primitive anastomose arteries that fully belong to the intracranial arterial vascular system do not perform any supportive functional activity. Nevertheless, they undergo the normal biological decay caused by the aging process and metabolic dysfunctions. Therefore, such primitive fetal arteries as PTA might be subjected not only to a faster structural deterioration but they would actively contribute to a series of mechanisms causing a variety of idiopathic intracranial vascular and structural symptoms. Consequently, this would change the primary therapeutic approach to solve this problem, today represented by surgical removal. Anatomic implications related to treatment procedure are also discussed.

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IMMEDIATE RESTORATION OF A SINGLE UPPER CENTRAL INTEGRATING DIGITAL WORKFLOW AND A NOVEL DENTAL IMPLANT: A CASE REPORT.

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The aim of this study is to report the integrated digital workflow with a novel dental implant to rehabilitate a single tooth in a high value aesthetic zone. A 50-year-old man asked to rehabilitate tooth 1.1. The use of an integrated digital workflow in combination with computer guided surgery allow the clinician to visualize all patient’s information when planning the rehabilitation in order to obtain a more predictable and a less invasive surgery. After two months of follow-up there were no biological or prosthetic issues. Within the limitation of this study, the digital workflow to rehabilitate a high value aesthetic zone could improve predictability and accuracy in immediate loading restoration.

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INFLUENCE OF IMPLANT SCANBODY MATERIAL AND OPERATOR ON SCANNING FLUENCY AND POLYGONAL MESH NUMBERS OF DIGITAL IMPRESSION: AN IN VITRO STUDY

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The purpose of this study is to evaluate the influence of implant scanbody (ISB) material and operator on scanning fluency and polygonal mesh numbers of a confocal microscopy intraoral scanning (IOS). An edentulous maxillary master model with 6 implant analogues was assembled. Thereafter 3 ISBs featured with same geometry but different materials (polyetheretherketone (PK), titanium (T) and PK with a titanium base (PKT)) were produce and scanned according to a randomized sequence by three different operators. The confocal microscopy IOS resulted in 45 STL test files that were processed to a dedicate software to obtain the request data. The overall analysis of fluency (imm/sec) showed the following results: mean 11.997 imm/sec, SD 2.355. The multivariate analysis showed statistical significance of material ($p<.0001$) and operator ($p<.0001$) influence. The univariate analysis referred to polygonal mesh numbers expressed the following results: mean 30327.8, SD 2432.5. The multivariate analysis stressed how there is a related effect to materials ($p<.0001$) and operator ($p=0.0205$). PKT represented the material with the best results for both. Analyzing the overall distribution histogram for scanning fluency, the IOS device seems to work with higher frequency at level of 13 imm/sec. The distribution of the measurements in the reference histograms showed an effect related to both variables referring to scanning fluency as well as to polygonal mesh numbers. Operator can be considered as a random effect; regarding the materials, the difference between PKT and PK can be related to the different base material. The dissimilar optical properties of T justify the different behavior.

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AUTOLOGOUS TOOTH GRAFT: A HISTOLOGICAL COMPARISON BETWEEN DENTIN MIXED WITH XENOGRAFT AND DENTIN ALONE GRAFTS IN SOCKET PRESERVATION

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The aim of this study is to compare the histological results after socket preservation between dentin mixed with xenograft and dentin alone in tooth graft procedure. Six patients were included in this prospective case series study and treated in three clinical centers using standardized clinical procedures. This clinical trial enrolled patients with three walls post-extractive defects requiring the restoration of bone dimension and shape in mandibular zone. The patients were divided in two groups: extracted teeth alone (first group) and extracted teeth mixed with equal quantity of xenograft (second group). The extracted tooth was cleaned and processed by a recently introduced automated device, that allows fragmentation and partial demineralization of the tooth matrix and used as graft material. The graft obtained in this way, was inserted at the time of the extraction. A covering membrane was used to protect the graft. Implants were placed after 4 months of healing. Bone biopsies of the all grafted sites were taken at the time of implant surgery, for histological analysis. Descriptive statistics was used to synthesize the results, using mean values and standard deviations. Six patients (5 women, mean age at surgery 50.3±12.1 years) were treated and after 4 months of healing both groups, grafts height appeared stable. No signs of infection were present. Bone biopsy were taken in all grafted sites (3 with group one and 3 with group two). The histologic analysis revealed no inflammatory or infective reaction against both groups. The histomorphometry results between the two groups are different. The first group show an amount of new bone greater than the second group (+85.29%) and minor quantity of residual graft (-83.59%). The dentin alone shows a larger amount of new bone.

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ARTICULAR DISC OF TEMPOROMANDIBULAR JOINT: AN ANATOMICAL AND HISTOLOGICAL STUDY. FUNCTIONAL CONSIDERATIONS.

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The articular disc is an important component of the temporomandibular joint, whose morphology has been studied on autopsy and biopsy materials. The normal posterior attachment of the disc is usually described as having two layers, one upper and one lower. The upper layer consists of elastic fibres, collagen fibres, fat deposits and blood vessels. It is connected posteriorly to the anterior face of the post-glenoid tubercle, the tympanic wall of the temporal bone, the cartilaginous meatus and the parotid gland lining. The lower layer, on the other hand, consists of a compact lamina of non-elastic collagen fibres, attached to the posterior surface of the condyle. Elastic fibres are one of the main constituents of the extracellular matrix of many connective tissues, and they are believed to play a very important role in the normal functions of many tissues such as blood vessels, lungs and dermis. The existence and functional importance of a fibroelastic tissue in the upper layer of the posterior portion of the articular disc has been described in human TMJ and in joints of many animal species. In human TMJ, it is believed that elastic fibres in the posterior and anterior attachment regions may play an important role in the repositioning of the disc during jaw closure. This study presents a review of the current literature on the morphology of elastic fibres in the posterior portion of the joint disc and the role attributed to them during all functions.

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FOREIGN BODY GRANULOMA IN THE MAXILLOFACIAL REGION: A CASE REPORT

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Foreign bodies can penetrate in soft tissues of the maxillofacial region through injuries and cutaneous lacerations from trauma. Most commonly found bodies are glass, metal and wood. We report the case of a 50-year-old male patient who came to our maxillofacial department complaining about the presence of an intraoral nodule located in the right upper gingival mucosa. The patient reported the story of a road accident, three months earlier, falling from a scooter without the aid of a protective helmet.

PRGF® ENDORET INJECTIONS FOR TEMPOROMANDIBULAR JOINT OSTEOARTHRITIS TREATMENT: A ONE-YEAR FOLLOW-UP

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This clinical trial investigates the efficacy of PRGF-Endoret® injections for the treatment of temporomandibular joint osteoarthritis by providing patient evaluations at a one-year follow-up. Fifty-two patients with a diagnosis of osteoarthritis according to the American Society of Temporomandibular Joint Surgeons' guidelines underwent a cycle of 3 injections (1 per month) of platelet-derived growth factors (PRGF). Two clinical parameters, pain at rest and maximum non-assisted mouth opening, were assessed by the same blinded operator at the time of the diagnosis (baseline), at each appointment during the treatment and at a 1-year follow-up visit. Both the parameters showed improvements that were maintained over time. Statistical analyses evidenced significant changes within the first two injections. Data from the present investigation support findings from studies on other joints, which show the efficacy of PRGF-Endoret injections to reduce symptoms of osteoarthritis and to maintain improvements over time.

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