

IMPLANTS INSERTED IN DIFFERENT SITES: ANALYSIS OF 390 FIXTURES

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Oral rehabilitation by means dental implants is a surgical procedure with high standards of success. Since very few reports focus on clinical success related to implant site and no report is available on a new type of implants (FMD srl, Rome, Italy), a retrospective study was performed. A total of 390 two-piece implants were inserted, 213 in females and 177 in males. The median age was 59 ± 11 (min-max 24-80 years). Two hundred and five implants were inserted in upper jaw and 185 in mandible. Three implants were lost, survival rate = 99.23%. Among the studies variables immediate loaded implants on single tooth rehabilitations ($p=0.047$) have a worse clinical outcome. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Among the remaining 387 implants, 47 fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 87.85). Statistical analysis demonstrated that no studied variable has an impact on clinical outcome and thus there are no differences in term of SVR and SCR by sites. In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

IMPLANTS INSERTED IN MANDIBLE: A CASE SERIES

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It is generally accepted that the mandible (especially in the interforaminal region) has better bone quality than the maxilla, and this fact is probably the reason why several reports are available regarding implants inserted into the mandible. Since no report is available on a new type of implants, a retrospective study was performed. A total of 185 two-piece implants (FMD srl, Rome, Italy) were inserted in mandible, 102 in female and 83 in males. The median age was 58 ± 13 (min-max 25-80 years). Implants replaced 14 incisors, 7 cuspids, 49 premolars and 115 molars. Implant' length was $x \leq 10$ mm, $10,30 \leq x \leq 12,30$, equal to 13 mm and $x \geq 14$ mm in 80, 90, 13 and 2 cases, respectively. Implant' diameter was narrower than 3.5 mm, equal to 3.8 mm and wider than 4.0 mm in 25, 17, 143 cases, respectively. There were 36, 41, 106 and 2 Elisir, I-fix, Shiner, and Storm implant types, respectively. One implant was lost, survival rate = 98.15%. Among the studies variables immediate loaded implants on single tooth rehabilitations ($p=0.017$) have a worse clinical outcome. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Among the remaining 184 implants, 20 fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 89.13). Statistical analysis demonstrated signifiacnce only for surgeon ($p=0.001$). In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

RETROSPECTIVE STUDY ON 205 FIXTURES INSERTED IN UPPER JAW

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The rehabilitation of the edentulous maxilla is a relatively common clinical problem and to submerge dental implants during the healing period is a major prerequisite to obtain implant osseointegration. It is believed that micromovement of implants, due to functional forces at the bone-implant interface during wound healing, could induce the formation of fibrous tissue rather than bone, leading to a clinical failure. In addition, the coverage of an implant is also thought necessary to prevent infection and epithelial down-growth. Usually, the second surgical procedure was performed after three months in the mandible and six months in the maxilla. Since no report is available on a new type of implants, a retrospective study was performed on fixtures inserted in upper jaw. A total of 205 two-piece implants (FMD srl, Rome, Italy) were inserted in maxilla, 111 in female and 94 in males. The median age was 59 ± 10 (min-max 24-80 years). Twenty four diabetic patients were enrolled, 141 had periodontal disease and 96 were smokers. Two surgeons performed operation. Fixtures were placed in 6 totally edentulous patient, 9 single missing teeth and 190 partially edentulous subjects. Twenty one implants were placed in post-extraction sockets; GBR was performed onto 26 fixtures and 3 were immediately loaded. There were 109 single crowns, 96 implants bearing 2 or greater bridges. Two implants were lost, survival rate = 99.02%. Among the studies variables immediate loaded implants on single tooth rehabilitations ($p=0.03$) have a worse clinical outcome. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Among the remaining 203 implants, 20 fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 89.13). Statistical analysis demonstrated that diabetes ($p=0.001$) and periodontal disease ($p=0.047$) had a worse outcome. In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

WIDE DIAMETER IMPLANTS: ANALYSIS OF A CASE SERIES

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In the last decade the use of wide diameter implants (WDI, i.e. diameter > 3.75 mm) has increased especially in posterior jaws because it is generally accepted that WDI: 1- improve the ability of posterior implants to tolerate occlusal forces, 2- create a wider base for proper prosthesis, and 3- avoid placing two standard-size implants (SSI = 3.75 mm) at one site to obtain a double-root prosthetic tooth. Since no report is available on a new type of implants, a retrospective study was performed. A total of 124 two-piece implants (FMD srl, Rome, Italy) were inserted, 56 in female and 68 in males. The median age was 59 ± 12 (min-max 28-75 years). Implants were inserted 59 in the maxilla and 65 in the mandible; they replaced 7 incisors, 4 cuspids, 23 premolars and 90 molars. One implant was lost, survival rate = 99.20%. Among the studies variables immediate loaded implants ($p=0.05$) and upper jaw ($p=0.005$) have a statistically significant worse outcome. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Among the remaining 123 implants, 2 fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 97.54). Statistical analysis demonstrated that single crown have a higher peri-implant crestal bone resorption if compared with bridge supported by 2 or more implants ($p=0.03$). In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

POST-EXTRACTIVE IMPLANTS: OUTCOME OF 40 CASES

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In the last two decades, several investigators have reported immediate placement of dental implants into extraction sockets achieving excellent results with a two-stage surgical procedure. Recently immediate loading has become an emerging technique as it has been documented to be a successful and time saving procedure. As regard the possibility of immediate/early loading of implants placed in fresh extraction sockets few reports are available. In addition they are based on limited series with short follow-up. Thus we decided to perform a retrospective study on a series of post-extractive implants. A total of 40 two-piece implants (FMD srl, Rome, Italy) were inserted in post extractive sockets, 22 in females and 18 in males. The median age was 52 ± 11 (min-max 24-69 years). Twenty-one implants were inserted in upper jaw and 19 in mandible. Fixtures replaced 7 incisors, 3 cuspids, 12 premolars and 18 molars. Implant' length was $x \leq 10$ mm, $10,30 \leq x \leq 12,30$, equal to 13 mm and $x \geq 14$ mm in 6, 14, 9, and 11 cases, respectively. Implant' diameter was narrower than 3.5 mm, equal to 3.8 mm and wider than 4.0 mm in 1, 7, and 32 cases, respectively. There were 28, 2 and 10 Elisir, I-fix, and Shiner implant types, respectively. No implant on single tooth rehabilitations, was lost, survival rate = 100%. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Seven fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 82.5%). Statistical analysis demonstrated that there was a difference between surgeons ($p= 0.005$). In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

RELIABILITY OF SHORT IMPLANTS IN ORAL REHABILITATION

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Implant prostheses are often used to restore partially or completely edentulous patients but limited bone height, especially in the posterior mandible, may restrict the use of dental implants. Short implants (i.e. $x \leq 10$ mm) may be selected in these situations. They have several advantages: 1 - restricting the need for sophisticated and expensive surgical procedures like sinus lifting, bone grafting and mandibular nerve transposition, 2 - placing short-span dentures and 3 - avoiding cantilevers in the posterior sextants. The limited surface area of SIs, conversely, can be a potential disadvantage as it has less resistance to occlusal forces. Since no report is available on a new type of implants, a retrospective study was performed. A total of 148 short (i.e. $x \leq 10$ mm) two-piece implants (FMD srl, Rome, Italy) were inserted, 91 in female and 57 in males. The median age was 58 ± 12 (min-max 25-80 years). Implants were inserted 68 in the maxilla and 80 in the mandible. One implant was lost, survival rate = 98.52%. Among the studies variables post-extractive implants on single tooth rehabilitations ($p=0.043$) was the only significant variable. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Among the remaining 147 implants, 18 fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 87.75). Statistical analysis demonstrated that only diabetes has a negative impact on peri-implant crestal bone resorption ($p=0.016$). In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR.

EFFECT OF NARROW DIAMETER IMPLANTS ON CLINICAL OUTCOME

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Narrow diameter implants (NDI) (i.e. diameter 3.75 mm) are a potential solution for specific clinical situations such as reduced interradicular bone, thin alveolar crest and replacement of teeth with small cervical diameter. NDI have been available in clinical practice since the nineties but only a few studies have analyzed their clinical outcome. Since no report is available on a new type of implants, a retrospective study was performed. A total of 47 narrow diameter (i.e. $x \leq 3.40$ mm) two-piece implants (FMD srl, Rome, Italy) were inserted, 35 in females and 12 in males. The median age was 60 ± 11 (min-max 30-80 years). Implants were inserted 22 in the maxilla and 25 in the mandible; they replaced 11 incisors, 3 cuspids, 21 premolars and 12 molars. Implant' length was shorter than 10 mm, $10.30 \leq x \leq 12.30$, equal to 13 mm and longer than 13 mm in 17, 28, 1 and 1 fixtures, respectively. Implant' diameter was narrower than 3.5 mm. There were 3, 18 and 26 Elisir, I-fix and Shiner implant types. No implant on single tooth rehabilitations was lost and thus survival rate was 100%. Then peri-implant bone resorption (i.e. delta IAJ) was used to investigate SCR. Seven fixtures have a crestal bone resorption greater than 1.5 mm (SCR = 85.1). Statistical analysis demonstrated that diabetes ($p=0.044$) and smoke ($p=0.001$) have a higher peri-implant crestal bone resorption. In conclusion FMD implants are reliable devices for oral rehabilitation with a very high SCR and SVR although smoker and diabetic patients have a worse clinical outcome.

TITANIUM DISK SURFACES MODULATE FIBROBLASTS BEHAVIOR

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Titanium (Ti) is the most widely used material in implantology for dental, orthopedic and maxillofacial purposes due to their excellent biocompatibility and mechanical properties. Several data suggest that implant anchorage to bone and soft tissue can be modulated by surface characteristics. Fibroblasts are the soft tissues cells concerned in producing extracellular matrix and collagen. The aim of this work is to compare five different titanium surface treatments in order to investigate which one had the best behavior using Human Fibroblast (HFb) after seven days in culture medium. The expression levels of some adhesion and traction-resistance related genes (COL11A1, COL2A1, COL9A1, DSP, ELN, HAS1, and TFRC) were analyzed using real time Reverse Transcription-Polymerase Chain Reaction (real time RT-PCR). Titanium disks can lead to implant integration promoting the production of protein involved in cell-cell and cell-matrix adhesion and in stress-resistance, required for a good outcome in dental implantology

TITANIUM DISK SURFACES MODULATE DENTAL IMPLANTS OSSEOINTEGRATION

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Titanium and titanium alloys are widely used as implant materials due to their excellent biocompatibility and mechanical properties. The aim of this work is to compare five different titanium layers in order to investigate which one had a greater osteoconductive power using Human Osteoblasts (HObs) culture for seven days on these surfaces. The expression levels of some bone-related genes (ALPL, COL1A1, COL3A1, SPP1, RUNX2 and SPARC) were analyzed using real time Reverse Transcription-Polymerase Chain Reaction (real time RT-PCR). Results obtained in this study demonstrate that titanium disks can lead to osteoblast differentiation and extracellular matrix deposition and mineralization by the activation of different osteoblast genes in relation to the specific type of surface treatment.

GENE EXPRESSION STUDY IN DENTAL PULP STEM CELLS CULTIVATED ON TITANIUM ALLOYS

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Nowadays, research on orthopedic and dental implants is focused on titanium alloys due to their appropriated mechanical properties and corrosion resistance in the body environment. Another important aspect to be investigated is their surface topography, which is very important to osseointegration. The aim of this study was to assess dental pulp stem cells response to different titanium surface topography modified. Mesenchymal stem cell marker ENG was significantly decreased in stem cells cultivated in modified titanium surface respect to machined titanium surface, indicating the differentiation effect of this biomaterial on stem cells. The obtained results can be relevant to better understand the molecular mechanism of bone regeneration and as a model for comparing other materials with similar clinical effects.

LASER BIOSTIMULATION AND SELF LIGATING APPLIANCES IN ORTHODONTICS: PERIODONTAL REMODELING

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24 patients are selected and 30 teeth in vestibular mucosae, without keratinized gingiva. No active periodontal disease (no BOP and gingival recessions). No BOP and CAL loss at the start of the orthodontic treatment. Every patient was treated with self ligating appliances (Time2/Time3, American Orthodontics). In every orthodontic session (each 30 days as average) the patient was treated with Nd:Yag laser biostimulation, for 90 seconds, with 320 micron fiber section, on utilizing the Biostimulating machine parameters. No thermal effects were produced by lasers applications. At the moment of debonding, 30 teeth involved in the research were evaluated in terms of quality and quantity of attached gingiva. BOP and CAL loss were also investigated. Every tooth considered, at the end of orthodontic treatment showed a attached gingiva around the crown: the average of keratinized gingiva at the end of the study was 2,7 mm and the mean increasing at each month was 0,45 mm.. The combination between self ligating appliances and laser's biostimulation could improve the differentiation of periodontal ligaments stem cells in fibroblasts, able to promote attached gingiva around the crown of the teeth erupted in oral vestibular mucosae.

MANAGEMENT MISSING LATER INCISOR IN MONOZYGOTIC TWINS: TWO CASE REPORTS

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Tooth loss of anterior region is the result of congenital anomaly or of a traumatic event. Maxillary lateral incisor is very important in masticatory function because permit lateral protrusion movement of mandible and is a key point in aesthetic of smile. Tooth agenesis is one of the most common developmental anomalies in man and it often is a feature of syndromes. Tooth developmental results by interactions of genetic and environmental factors, in particular mutations in MSX1, PAX9 contribute tooth agenesis, but also radiotherapy, chemotherapy, maternal systemic diseases aid genetic aberrations. Upper lateral incisor is in a unfavorable anatomical position because it's in fusion area of facial processes for this it's the most common tooth loss in oral cleft. The management of these patients is complex and it includes an orthodontic, prosthetic and surgical analysis This report addresses the fundamental considerations related to replacement of congenitally missing lateral incisors by a team approach.

ORAL MANIFESTATIONS IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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Leukaemia, a form of abnormal and atypical proliferation of undeveloped white cells, is the most common form of malignant neoplasia in childhood. The different forms of leukaemia are characterized by a high incidence of oral complications. Moreover, oral injuries may be the first predictor of the illness helping to diagnose leukaemia, even if the histologic examination of the marrow is required for a certain diagnosis. Actually the early diagnosis of oral injuries is really important for prevention and treatment of the complications that may arise during the therapy: a better prognosis and lower morbidity and mortality for this illness ensue. Furthermore, even after remission, the young patient increasingly needs a constant monitoring of the oral cavity because of the delayed effects of the illness and the therapy. Therefore a dental treatment programme for paediatric haemato-oncological patients is very important to improve quality of life of leukemic children.

ORAL MUCOSITIS IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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There are many types of cancers in children that are very different from those found in adults: leukaemia, lymphoma, and brain tumours are rather common in children. Acute lymphoblastic leukaemia (ALL) is the most common type of malignancy encountered. The role of pediatric dentist is very important before, during and after therapy: up to 24% of life-threatening infections arise from oral sites and areas. Early dental intervention and preventions procedures may significantly reduce oral complications associated with myelosuppressive cancer treatment. It is really important to evaluate the oral health surveys and to cut out potential sources of infection in mouth in these patients concurrent with their medical therapy. The aim of this review is summarizing the main features of oral mucositis in Childhood Acute Lymphoblastic Leukaemia, providing a little review for the approach, diagnosis and treatment of oral mucositis of ALL, which is frequent and potentially dangerous: it's important considering oral lesions of this type of childhood cancer in order to prevent complications before, during and after chemo or radio therapy to improve the quality of life of little patients.

PERIODONTAL LESIONS AND GINGIVAL PROBLEMS IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA

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Dentists both as clinical practice and research increased progressively their interest in leukemia, because the oral complications are common during the outcome of the disease, dental management is complex, and the mouth is a potential source of morbidity. The aim of this review is analyzing the most important periodontal problems due to childhood Leukaemia. Infact only with an appropriate periodontal treatment oral health could be mantained and restored before development of irreversible periodontal damage. Our experience suggests that even if detrimental impact of antineoplastic therapy on oral cavity is unavoidable, it could be diminished with an adequate and correct preventive or curative therapy contributing to a better quality of life of children treated for cancer.

**THE STOMATOGNATHIC SYSTEM'S ROLE IN THE POSTURAL STABILIZATION IN
SUBJECTS SUFFERING FROM WHIPLASH INJURY
PART 1: PATIENTS WITH PHYSIOLOGICAL OCCLUSION**

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Aim of this study is analyze the effects of dental occlusion on postural stability in patients with previous whiplash and normal occlusion. Materials and methods: 36 adult patients with previous whiplash and normal occlusion (good alignment, 1st class or mild 2nd class deep bite for mandibular retrusion) were selected. The patients were suffering from masticatory muscles pain caused by clenching during sleep. Exclusion criteria: use of psych drugs. To simulate the conditions of sleep (with a reduction of proprio- and esteroceptive inputs for postural management performed by CNS), we used postural Romberg analysis (feet together, closed eyes) on stabilometric platform changing occlusal parameters only, under the following conditions: 1) in occlusal rest position, 2) in centric occlusion, 3) in clenching, 4) with occlusal disengage with cotton rolls and 5) in clenching on cotton rolls. Time of each test: 15 seconds. It was performed a statistical analysis with T-test comparing between them the mean of all tests. Results: stabilometry data (postural ball and ellipse) show better postural performances in centric occlusion and clenching in centric occlusion, and a worsening in all tests with occlusal disengage (with statistically significant difference - $p < 0.05$). Conclusions: postural instability caused by whiplash increases muscles tone and dental clenching as compensatory effects, with onset of facial pain. An occlusal disengage (like an occlusal splint to reduce clenching) induces a postural worsening in patients with normal occlusion, while centric occlusion increases the stability. These results suggest that stomatognathic organ has a new physiological function: the posture stabilization.

**THE STOMATOGNATHIC SYSTEM'S ROLE IN THE POSTURAL STABILIZATION IN
SUBJECTS SUFFERING FROM WHIPLASH INJURY.
PART 2: PATIENTS WITH MALOCCLUSION**

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Aim of this study is analyze the effects of dental occlusion on postural stability in patients with previous whiplash and malocclusion. Materials and methods: 30 adult patients with previous whiplash and malocclusion (crossbite, mandibular shift, bad alignment, edentulous spaces) were selected. The patients were suffering from masticatory muscles pain caused by clenching during sleep. Exclusion criteria: use of psych drugs. To simulate the conditions of sleep (with a reduction of proprio- and esteroceptive inputs for postural management performed by CNS), we used postural Romberg analysis (feet together, closed eyes) on stabilometric platform changing occlusal parameters only, under the following conditions: 1) in occlusal rest position, 2) in centric occlusion, 3) in clenching, 4) with occlusal disengage with cotton rolls and 5) in clenching on cotton rolls. Time of each test: 15 seconds. It was performed a statistical analysis with T-test comparing between them the mean of all tests. Results: stabilometry data (postural ball and ellipse) show better postural with occlusal disengage (in centric and in clenching), and a worsening in all tests with centric occlusion (with statistically significant difference - $p < 0.05$). Conclusions: postural instability caused by whiplash increases muscles tone and dental clenching as compensatory effects, with onset of facial pain and a worsening of TMJ health in subjects with malocclusion. An occlusal disengage (like an occlusal splint to reduce clenching) induces better postural performances. Sostomatognathic system becomes a source of postural dysfunction and a cause of postural worsening.

EVALUATION ABOUT ANTIMICROBICAL ACTIVITY OF SILVER IN ORTHOSHIELD SAFE-T-TIE® LIGATURES USED IN ORTHODONTIC PATIENTS

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Purpose: to value efficacy of anti microbic propriety of silver ligatures Orthoshield Safe-T-Tie® on periodontal tissues in orthodontic patients. **Materials and methods:** 50 orthodontic patients between 11 and 20 years old with permanent teeth were selected in this study. We evaluated periodontal health of maxillary and mandibular lateral incisors and canines at T0 before the substitution of elastomeric ligatures with Orthoshield Safe-T-Tie® ligatures and at T1 (one month after substitution of ligatures). We used PI (Periodontal Index), GI (Gingival Index) and PRC-real-time to analyze periodontal health. **Results:** there was an improvement of gingival inflammation and a reduction of periodontal pathogens. **Conclusions:** Orthoshield Safe-T-Tie® ligatures improve periodontal health in orthodontic patients.

THE USE OF LASER DIODES SUPERPULSES IN IMPLANTOLOGY

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Diode laser is a laser, usually between 810 and 980 nm wavelength, able to work on hard and soft tissues, as periodontal tissues and bone. The use of Diode laser is recommended during oral surgery or periodontal therapy, when it is necessary to erase any periodontal bacteria evolved in periodontal disease, in combination with hydrogen peroxide (photodynamic therapy), and also, by its biostimulating effects, to improve the healing of the regenerative procedures, as sinus lift, bone crestal expansion or to assist implant surgery. This article shows two cases report in which diode lasers are evolved. Diode lasers in association with Hydrogen Peroxide on utilizing the decontaminant effects oh Photodynamic Therapy, and to prepare the area defects for a regenerative surgery.

**PHOTODYNAMIC THERAPY
(ASSOCIATION DIODE LASER/ HYDROGEN PEROXIDE):
EVALUATION OF BACTERICIDAL EFFECTS ON PERIODONTOPATHIC BACTERIA: AN IN
VITRO STUDY**

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The main cause for the development of periodontitis is the accumulation of subgingival microbial deposits organized tightly to the porous surface of the tooth cementum. The growth of the microbial populations and the immunological reaction of the host organism are responsible for the destruction of periodontal ligament apparatus. The primary goal in the treatment of periodontitis is the complete removal of subgingival bacterial deposits. The large amount of evidence establishing a microbial etiology for periodontitis has been the basis for the development of antimicrobial treatment approaches. Photodynamic therapy (PDT) employs a non-toxic dye, termed a photosensitizer (PS), and low intensity visible light which, in the presence of oxygen, combine to produce cytotoxic species. In this in vitro protocol study it was tested the bactericidal efficacy of Diode laser (Oralia), of Hydrogen Peroxyde and the association Diode Laser-Peroxyd Hydrogen (PDT) on *Prevotella intermedia*, *Peptostreptococcus micros* and *Fusobacterium nucleatum*, three of the most aggressive bacteria involved on periodontal disease.

EFFECTS OF MECHANICAL VERSUS MANUAL NON SURGICAL PERIODONTAL THERAPY ON PATIENT COMFORT AND PERIODONTAL HEALING: A RANDOMIZED CONTROLLED CLINICAL TRIAL

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Few studies have focused on the problem of pain and discomfort experienced during and after periodontal debridement. The aim of this study was to evaluate the effect of manual versus hand driven non surgical periodontal instrumentation on the patient's comfort, perception of pain and dental hypersensitivity during and after the instrumentation. Moreover, the influence of the treatment modality on the healing of slight to moderate periodontitis was assessed with careful attention to indices of periodontal inflammation. 22 subjects with a minimum of $4 \geq 6$ mm periodontal pockets with 3 to 4 mm attachment loss in different quadrants, the presence of ≥ 20 teeth with a minimum of four molars were enrolled. PD (probing depth, 6 sites per tooth), number of sites with $PD > 6$ mm, buccal and lingual recessions were collected. Two quadrants Mouth Bleeding and Plaque Scores (T.M.P.S, T.M.B.S.) were assessed as the presence or absence of bleeding on probing and plaque following disclosing in quadrants 1-4 and 2-3. Non surgical periodontal treatment was delivered in two appointments performed within one week. In the first appointment the first and the fourth quadrants (patient's right side) were completely treated by mechanical or manual devices according to the randomization codes. In the second appointment the remaining two quadrants (patient's left side) were instrumented with the other therapeutical approach. The duration of each session, need for local anesthesia and additional information were recorded during the instrumentation appointments. All the patients were requested to fill in a form regarding pain, hypersensitivity, and need for painkillers following the two debridement appointments. Two drop outs were observed. Mean pain scores after treatment were higher in manual than in machine driven side (3.11 ± 1.40 vs 2.33 ± 1.41), whereas mean dentine hypersensitivity scores were slightly higher in mechanical side (4.40 ± 1.56 vs 3.77 ± 1.11). The need for painkillers after both treatment approaches was minimal. 6 out of 20 patients asked for local anesthesia and clustering regarding the request for both treated sides was observed. The mean instrumentation time was significantly lower for mechanical versus manual instrumentation (84.57 ± 12.92 vs 119.25 ± 13.50 , $p < 0.001$). Periodontal healing was similar in both the hand and machine driven instrumented sides. TMPS and TMBS were significantly lower at baseline compared to re-evaluation visits and the within group changes were significant lower at re-evaluation. Most of patients well tolerated non surgical periodontal treatment despite the type of instruments that are chosen by the clinician. Pain is infrequently reported and is more common after manual instrumentation compared to machine driven one. The need for local anesthesia is quite uncommon and is surely subject-dependent. Temporary, slight dentine hypersensitivity is a common adverse effect reported by most of patients after subgingival debridement. Machine driven debridement shows a dramatic advantage compared to manual treatment due to the lower amount of time needed to complete the instrumentation.

CRESTAL BONE REMODELING AROUND PLATFORM SWITCHED, IMMEDIATELY LOADED IMPLANTS PLACED IN SITES OF PREVIOUS FAILURES

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The possibility to insert immediately-loaded implants in post-extraction sites where previously inserted implants had failed and had never received a prosthesis has not been sufficiently studied to the present day. Only few articles in the literature address this problem. The aim of the present study was to evaluate crestal bone remodeling around implants with a platform-switched design inserted and loaded immediately after the failure of the previous implants. This study has a follow-up of 36 months. Failed implants that had never received a prosthesis have been removed in 68 patients. In the present study 10 patients, whose bone crest measured at least 8 mm in width, were selected and 16 immediately loaded implants with a platform-switched design and a sandblasted and acid etched SLA surface, (Winsix®, Biosaf srl, Italy) were placed. Statistically significant differences were observed in crestal bone remodeling between 12 and 36 months ($p<0.05$) and between 24 and 36 months ($p<0.001$), although no statistically significant differences were found between 12 and 24 months ($p>0.05$). The values of periodontal indices have sometimes been borderline, although they returned normal later on. The cumulative success-rate of all the 16 implants inserted was of 93.75%, while the survival rate was 100%. Results show that immediately loaded platform-switched implants are a practicable solution for the rehabilitation of sites of early failed implants.