

Oral surgery

Case report: sinus lift vs tilted implants in HIV-infected patients under HAART

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Aim: Evidence suggest that well-controlled HIV-infected patients are possible candidates to receive dental implants. However, literature regarding dental implant therapy in HIV-infected patients is still scarce and mostly based on case reports and pilot studies.

Even more limited is literature regarding patients complex surgical procedures, like GBR or sinus lift, in HIV-infected. We present two clinical cases of different rehabilitation of two important posterior maxilla atrophy in HIV-infected immunologically stable.

Methods: The first case shows a middle-aged patient, under HAART, presented to the Department of Dentistry and Dental Prosthetics of the University Vita-Salute San Raffaele with a large defect in the posterior maxilla, as a consequence of pneumatized sinus as shown by CBCT. The only way to allow implant placement was sinus lift. A simultaneous approach was planned and implants were placed at the same time of sinus floor elevation. Deproteinized bovine bone matrix (Bio-Oss®, Geistlich) was used to augment the sinus and a collagen membrane (Bio-Gide®, Geistlich) placed over the lateral window used to access the sinus membrane. Two implants in site 14 and 16 were placed and stabilized in the residual alveolar crest achieving low primary stability. Therefore, a longer healing period was necessary and patient waited 9 months to re-entry. The second case reported is a male patient, 55 years old, under HAART, presented to the Department of Dentistry and Dental Prosthetics of the University Vita-Salute

San Raffaele willing to replace teeth 24, 25, 26, which have been extracted more than 2 years ago. Because of the poor bone volume as shown by panoramic x-ray, applying tilted implant in position 24 allowed implant placements without sinus lifting. This also reduced the treatment time, surgical procedures, and biological cost. Antibiotic coverage was used in both cases.

Results: Various studies are available regarding success rate of angulated implant placement at various time intervals. There are no differences in clinical performance between implants that are placed in an axial position when compared with implants that are intentionally tilted toward the distal aspect of edentulous jaws. The use of tilted implants promotes greater comfort for the patient rather than sinus lift. Moreover the insertion of fixture in the basal bone gives better outcomes and it provides better results than the insertion of bone grafts, as confirmed by the literature. Several types of complications may occur during and after the sinus elevation procedure. Although most short-term studies report similar results for HIV-infected and healthy patients when it comes to implant survival rates, evidence suggest that HIV-infected patients present higher risk of post surgical complications.

Conclusion: Considering all these things, when it is possible, placement of an angulated implant avoiding both invasive procedures like sinus lift and bone augmentation procedure should be the first choice of treatment, in particular for special needs patients.

Use of PRF to promote the healing of post-extraction sites in a patient undergoing bisphosphonate: a case report

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protocol for membrane formation and for the achievement of Sticky Bone was applied. Raised a full-thickness flap, it is placed on the recipient sites the Sticky Bone which is covered by the membranes of CGF; the flaps are then closed by first intention. Six months after the intervention and after CT evaluation of the regenerated sites the surgical re-entry is programmed during which, at the same time of the implant insertion, a bone carrot is taken for the histological analyzes. A total of 4 bone coring were taken. Two colors are made in the laboratory: hematoxylin-eosin for the general evaluation of the morphology of the samples and Masson-Goldner's trichrome for quantitative analyzes. In particular, the percentages of vital bone, non-mineralized tissue and medullary spaces containing or without the biomaterial have been calculated.

Results: Clinically, it has been observed that the application of CGF positively influences the healing of soft tissues, at 4 days it showed no signs of inflammation and appeared pink at 7 days. Healing appeared complete at 15 days without signs of wound dehiscence. Patients reported no pain or swelling exceeding normal parameters and there were no post-operative complications. From the histomorphometric analysis it was found that the vital bone constituted $51 \pm 13\%$, the $12 \pm 2\%$ was represented by non-mineralized tissue, while the medullary spaces with the presence or absence of the biomaterial employed $37 \pm 5\%$. During coring the perception of consistency was comparable to a grade IV of the Misch scale; the four coring picked up presented some critical points during the various processing steps due to a different consistency in the different parts of the sample. This fragmentation has made the evaluation and orientation of the samples more difficult. The vases are recognizable and well represented, especially in non-mineralized tissue. The presence of inflammatory elements was not observed.

Conclusion: From the clinical point of view it was observed how the CGF intervened significantly in soft tissue healing. From the histomorphometric analyzes, different signs of bone regeneration emerged: the presence of neovascularization and the percentage of neoformed vital bone, some of which showed a non-homogeneity that could be interpreted as a sign of active bone renewal; furthermore, the still present biomaterial was surrounded by tissue being formed. However, these aspects do not allow, at the moment, to sustain that the process has been accelerated and improved by the addition of CGF. In fact, the study has several limitations: the small number of the sample and the difficulties encountered during the processing of the bone coring do not allow to conduct a statistical analysis. Therefore, studies are still needed to develop precise clinical protocols that make it possible to exploit the CGF's potential.

Biological evaluation of autologous bone samples taken with various methods

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Aim: Autologous bone sampling is a well documented procedure in oral and maxillofacial surgery, therefore there are various methods of sampling bone and particulate blocks. It is suggest that small bone particles exhibit a larger total area, but that mechanical manipulation reduces the number of viable cells taken with greater damage to small particles. The aim of the present work is to determine the number of viable cells in mandibular and maxilla bone chips, evaluating whether there is a significant difference between different methods of sampling and collection.

Methods: The bone-chips were taken using the following methods: scraper (Savescraper®), microscraper (Micros®), implant, piezoelectric scalpel OP3 (Piezosurgery®) and round burs surgical drill 3.5mm. For the surgical drill and piezo scalpel method, the bone chips were conveyed by the surgical suction device connected with collecting systems with a basket or piston filter. The samples were seeded in Dulbecco's Modified Eagle's Medium (DMEM) of 5 cm diameter and incubated at 37 ° C in 95% air and 5% carbon dioxide. The osteoblast survival curves were evaluated in the 30-day time unit, highlighted in microscopy by Burker's chamber. The results were compared with the survival curves of block-section samples of mandible, maxilla and cranial theca.

Results: The study investigated 18 methods of sampling, for each method 3 samples were taken for a total of 54 samples. Among these, 5 samples taken by surgical suction were excluded for bacterial superinfection. The osteoblastic survival curve was higher with bone-chips taken with implantation method (over the 95% at the 30th day) followed by the scaper technique (about 90% at the 30th day) and by the piezoelectric scalpel method and with round burs surgical drill with (close to the 50%). The block-section samples have already produced stratification over the 95% at the 25th. The diversification of the maxillar versus mandibular site did not provide significant results.

Conclusion: The use of one sampling method depends essentially on the surgical occasions. Bone chips produced by drilling the implant site preparation protocol are the most performing, above all because the bone marrow and cortical components are removed. Otherwise the use of the scraper should be preferred. In fact, the scraper is a method of picking

little traumatic and with lower risk of contamination, which produces a coarse-grained bone chips with high osteoinductive capacities.

Socket-shield technique: a case report

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Aim: Healing of extraction sockets leads to dimensional changes that affect the implant placement and its emergency profile. Clinical studies by Hürzeler et al. suggest that retaining buccal root fragment of hopeless teeth may avoid tissue alterations after tooth extraction. The aim of this report is to present the surgery procedure known as the socket-shield technique (SST) as an alternative approach to prevent hard and soft tissue resorption processes with an immediate implant placement.

Methods: 75 year-old female patient came to our clinical observation presenting rooth decay on element 13. Based on clinical and radiografic exams, no restaurative alternatives were possible. Considering the absence of pathological periodontal probing it was possible to plan an immediate implant placement. Local infiltration anesthesia (mepivacaine 2% + adrenaline 1:100000) was administered at the surgical site. Sectioning of the root was done in two steps. In the first step, sectioning was done mesiodistally till apical two-third with the help of surgical bur parallel to the long axis of the tooth. In the second step, the direction of the bur was changed to an oblique direction toward the buccal surface in order to detach the palatal fragment. The palatal aspect was atraumatically extracted with the help of a Coupland elevator, leaving the buccal aspect untouched into the alveolus and remaining buccal fragment was trimmed by leaving only 2 mm in a C-shape as a shield. After that the implant was placed (BLT™ Straumann 4.1 x 12 mm), paying attention to not getting in contact with the root fragment, that must be left untouched during all the procedure, in order to preserve its stability and its periodontal ligament. The primary stability was successfully achieved and a provisional prosthetic manufact was placed immediately after implant insertion.

Results: No postoperative complication was noticed and healing was uneventful. Primary stability was achieved and clinical and radiografic exams immediately after surgery show proper implant placement. Six months follow-up shows proper healing, and healthy peri-

implant tissues. Neither recession or bone resorption were recorded. This case report shows satisfying preservation of postextraction tissue and buccal bone with successful healing of the implant.

Conclusions: Numerous studies have shown that the alveolar ridge undergoes bone remodeling after tooth extraction, in terms of both shape and width of the buccal plate. The bone loss seems to be a result of destruction of the periodontal ligament consequent to tooth extraction. This resorption may leads to recession, undesirable especially in the aesthetic zone. Several authors found that bone resorption could be prevented by the retention of the buccal aspect of the root with its periodontal ligament and immediate implant placement. The immediate implant placement supports the buccal root fragment and thereby prevent resorption and collapse of the buccal soft tissue. In addition, the root fragment will increase the width of the buccal bone plate to more than 2 mm, reducing the amount and incidence of buccal bone loss. Histological studies by Hürzeler et al. showed cementogenesis between the implant surface and the retained root surface and clinically successful osseointegrated implant, demonstrating the validity of the SST in preserving buccal cortical plate and peri-implant tissues.

Severe oro-facio-cervical odontogenic abscess and phlegmons: complications, diagnostic and therapeutical management of 61 hospitalized patients

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Aim: The loco-regional and systemic spreading of odontogenic abscess is a life-threatening complication of wrong or delayed treatment. Every year, lots of patients with severe facial and cervical swelling, erythema and pain caused by odontogenic infections reach emergency room. They may arise from periapical abscesses to superficial and deep infections in the neck. If untreated, they lead to complications that often require hospitalization, surgical drain, extraction of involved teeth and intravenous antibiotic therapy effective to multiple-resistant bacteria. About causative bacteria, 73% were Streptococcus, 48% were Prevotella, and 47% were Peptostreptococcus. This study describes cases of severe odontogenic abscess and phlegmons referred to Complex Operating Unit of Odontostomatology of the "Aldo Moro" University of Bari between 2017 and 2018.

Methods: At emergency room, all patients underwent