

EFFICACY OF THE ANDRESEN ACTIVATOR BEFORE PEAK GROWTH IN CLASS II PATIENTS

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Andresen activator (AA) is a functional appliance used to correct Class II malocclusion in growing patients. It corrects the malocclusion stimulating mandibular growth and determining a palatoversion of the upper incisors and a vestibularization of the lower incisors. The aim of this study was to analyze the treatment efficacy of class II malocclusion due to mandibular hypodevelopment before peak growth. Fourteen subjects with class II relationship of the skeletal bases and cervical vertebrae maturation stage 1 or 2 were enrolled in the study. Cephalometric analyses were carried out using landmarks derived from the analyses of Pancherz, Ricketts, Tweed and Steiner. A significant decrease ($P < 0.05$) in ANB angle was found ($-2.29 \pm 3.05^\circ$) after treatment, which was expression of an improvement in maxillo-mandibular sagittal skeletal relationships. There was also a significant reduction of OJ after treatment (-4.44 ± 2.36 mm; $P < 0.001$), indicating a vestibularization of the mandibular incisors and a palatoversion of the maxillary incisors, and a correction of the molar relationship. The favorable effects of the Andresen activator for the correction of the mandibular defect can be found even prior to peak growth; the achieved class I relationship maintains a correct mandible position in time, ensuring a proper skeletal growth.

EVALUATION OF PAIN, SWELLING AND TRISMUS AFTER EXTRACTION OF IMPACTED THIRD MOLARS RELATIVE TO THE USE OF BETAMETHASONE IN SUBMUCUSAL INFILTRATION

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The aim of this study was to evaluate the anti-inflammatory effect of a single 4 mg injection of submucosal betamethasone after extraction of impacted third molars. Single-centre, single-blinded, parallel group study; Forty-three patients were submitted to impacted third molar extraction. In this study, 4 mg single-dose submucosal betamethasone was injected in the interventional group, while in the control group nothing was injected. Postoperative measurement included pain via the VAS scale, swelling and trismus with facial measurements and maximum mouth openings, and finally nerve sensitivity. There was a significant difference between the two groups regarding trismic pain and edema. The use of a single 4 mg submucosal betamethasone injection leads to a reduction of oedema, trismus and pain in patients undergoing impacted third molar extraction.

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TOOTH AGENESIS: PART 1. INCIDENCE AND DIAGNOSIS IN ORTHODONTICS

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Dental agenesis has a great clinical significance due to its frequency during daily practice and the therapeutic problems that can arise from it. This paper will explore the incidence of dental agenesis, its diagnosis and how this anomaly affects the teeth differently. The second subsequent paper will look at its treatment and management.

TOOTH AGENESIS: PART 2. ORTHODONTIC TREATMENT AND PROSTHETIC POSSIBILITIES

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Dental agenesis has a great clinical significance due to its frequency during daily practice and the therapeutic problems that can arise from it. This paper will explore all the aspects to consider in order creating a proper multidisciplinary treatment plan: in particular, orthodontic, prosthetic and implantologic therapeutic alternatives are described for the rehabilitation of the different areas of the dental arches. In fact, dental agenesis is a problem that often requires the intervention of specialists from the different fields of dentistry and its treatment must meet aesthetics needs, stomatognathic function and patient satisfaction.

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BI-LAYERED COLLAGEN NANO-STRUCTURED MEMBRANE PROTOTYPE COLLAGEN MATRIX CM-10826 FOR ORAL SOFT TISSUE REGENERATION: AN *IN VIVO* ULTRASTRUCTURAL STUDY ON 13 PATIENTS

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A new developed collagen matrix CM-10826 (CM) of porcine origin designed to be used as oral soft tissue substitute was investigated before and after implantation by light microscopy (LM), scanning electron microscopy (SEM), and transmission electron microscopy (TEM). In a case series biopsy specimens were harvested from thirteen patients at 10, 20, 30, 43 days after abutment surgery for uncovering dental implants. The *in vivo* histological evaluations of each patient were performed via micro-coring of newly formed oral mucosa in the area covered by CM (test side) or left uncovered (control). Results showed that CM can be integrated in connective and epithelial tissues within 10 days, can be completely resorbed within 20 days and it is able to reduce inflammatory infiltrates and to stimulate both fibroblast/epithelial cell proliferation and neo-angiogenesis. Generally it seems to be superior in promoting soft tissue healing compared to that induced by secondary intention healing. Furthermore, it is able to act as a scaffold for soft-tissue regeneration, allowing the proliferation of keratinocytes from the wound edges and favoring neovascularization and growth of connective tissue in the mesh of porous layer. It appears that a CM might function in oral surgery as a substitute for autologous grafts and to avoid secondary intention healing in soft tissue defects.

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GUIDELINES FOR ACHIEVING THE BEST IMPLANTS SURVIVAL RATES IN THE REHABILITATION OF THE ATROPHIC POSTERIOR MAXILLA

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The first option in the rehabilitation of the posterior atrophic maxilla is the sinus lift. The aim of this study is to highlight the characteristics that a sinus lift should have to maximize the subsequent implant survival rate. 33 systematic reviews regarding sinus lift procedures, implants success and survival rates were identified through scientific archives and analysed. The obtained results indicated that a heterogeneity of sinus lift procedures are described in the literature. The sinus lift should be performed through the apposition of particulate xenograft materials, in at least 4mm residual bone. Implants should have a rough surface and the patient should be non-smoker.

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AN OVERVIEW OF GUIDED BONE REGENERATION

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Guided bone regeneration (GBR) is a surgical procedure whose purpose is to obtain, new bone, new cementum and a new periodontal attachment around a periodontally compromised tooth. In this work, an overview of the literature was performed to analyze the state of the art concerning GBR in order to draw useful conclusions for clinical practice. Twenty-nine articles regarding GBR procedures were identified through scientific archives and analyzed. The biological rationale, the graft materials and the predictive factors were identified to help the clinicians in their practice. GBR is an effective treatment to prevent tooth loss if performed in adequate bone defects and it is also important to keep in mind predictive factors.

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AN OVERVIEW OF SOCKET PRESERVATION

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Socket preservation is a surgical procedure whose aim is to limit the physiological resorption of the alveolar ridge that occurs after a dental extraction, in order to have sufficient bone to perform an implant placement. 16 articles regarding socket preservation procedures were identified through scientific archives and analysed. The biological rationale, the graft materials and the predictive factors are identified to help the clinicians in their practice. Socket preservation is an effective treatment to prevent bone resorption if performed after an atraumatic extraction with the use of biomaterials and membranes. It is also important not to forget local and systemic predictive factors.

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AGENESIS: PILOT CASE REPORT BY 2.9 mm IMPLANT

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The agenesis of the upper lateral incisor is one of the most frequent aesthetic-functional problems in dentistry. The reported case concerns a 49 years old male patient with bilateral agenesis of teeth 1.2-2.2 and a root stump of tooth 5.2 temporarily rehabilitated through a Maryland bridge. Without orthodontic treatment, the only solution for implant-prosthetic rehabilitation of tooth 1.2 results therefore in the use of a 2.9 mm diameter implant. The clinical and radiographic control of the implant and the gingival stability at a distance of 1 year gives a positive result both clinically and radiographically. The use of the implant with a 2.9 mm diameter is therefore indicated in extreme cases of limited bone availability.

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**IMMEDIATE REHABILITATION OF THE POSTERIOR MAXILLA WITH AN AXIAL
AND A TILTED POST-EXTRACTIVE IMPLANT:
A TECHNICAL REPORT AND BRIEF LITERATURE REVIEW**

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The atrophic posterior ridges are usually characterized by poor bone quality and quantity: this situation requires the use of bone regenerative techniques. Other alternative surgical approaches are investigated. Nowadays the use of tilted implants offers some advantages due to its feasibility. Today, bone grafting may be practical, but depends on many factors, such as the type of bone graft used (autogenous, alloplastic, or xenograft), host response, age of the patient, various complications associated with grafting procedures, infection, and, most importantly, the time spent while the grafted material matures and is taken up by the bone. So this case report describes the feasibility of an alternative surgical technique.

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