Present Pain Intensity and Respiratory Parameters in Experimental Pain.

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The purpose of this study was to examine the relationship between present pain intensity, expressed by the visual-analogic (VAS) score, and respiratory parameters, such as respiratory rate, inspired minute volume, peak flow rate and ventilation volume. The healthy, paid female volunteers were used as subjects. Experimental muscle pain was induced by means of the computer-controlled infusion of hypertonic saline into the gastrocnemius muscle. Lactate saline was applied under open circuit conditions. Respiratory monitoring was carried out using a large scale Plethysmograph. Pain intensity scores were obtained every 1.5 s. The average pain intensity was 1.6 ± 0.6 VAS scores during the infusion of hypertonic saline, and 0.3 ± 0.1 for isotonic saline. Average pain intensity scores and respiratory parameters compendium for time windows of 30 s, were used for correlational data analyses. Considering all 10 subjects while 10 minutes post pain, correlation coefficients for peak inspiratory flow rate, ventilation rate, ventilation volume and respiratory rate were 0.79, 0.76 and 0.57, respectively (p<0.0003). In the first 2.5 minutes in pain, the respiratory flow and volume were correlated at an even higher level with the present pain intensity (r=0.91; 0.91; 0.0303; 0.0303; 0.0303). It was concluded that present pain intensity was a good predictor of the respiratory response. This effect was particularly expressed in the initial phase of pain.

Supported by NIH/NSROI BN-086-06.

Comparison of Bone Healing in Four Types of Femur Cysts.

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A retrospective study was undertaken to investigate the quality of bone healing and the factors affecting it in four types of odontogenic cysts in Chinese patients. The records examined were all healthy patients with odontogenic keratocysts, radicular, residual or follicular cysts encountered in the Department of Oral & Maxillofacial Surgery between 1981 and 1992 by enucleation and followed up. The cysts were classified based on the type of bone in which they arose. The study group comprised 378 cysts. The location and size of each, the presence of pre-operative infections and the use of primary wounding closure or open packing were recorded. Healing of each cyst cavity was graded from poor (grade 0) to excellent (grade 3). The frequency of cyst recurrence was also recorded. The study showed that defects sealed with a Standard and pulsed ultra-biologically active bone grafting material, and that the quality of bone healing was significantly poorer in cysts excised in the first 6 months post-operative than those excised in the second 6 months.

In oral and maxillofacial surgery palatal mucosa grafts are used to cover mucosal defects caused by vestibuloplasty. In more extensive operations, the quality of palatal mucosa is a limiting factor. The aim of the study was to investigate the healing process of palatal mucosa grafts when used in the floor of the nose during septoplasty and in the lateral wall of the nose during rhinoplasty. A single-layered shed skin autograft was used as a dressing for these defects. In eight patients (5 men, 3 women; mean age 43 years) a single layer autograft was taken from the keratinized palatal mucosa. Keratinocytes, extracellular, enzymatically digested from the same source. Seventy-two hours after surgery, the autograft was removed and a monolayer of lethally irradiated 3T3-mouse fibroblasts in a humidified incubator at 37 °C and 5% CO2 for 24 hours followed by a 4-hr exposure to fresh L-ascorbic acid, L-glutamine, fungicide, and the addition of a genetic antibiotic. The epithelial sheet was cultured. The sheet was detached from the culture flask by enzyme treatment, (500 μg/ml of trypsin and 0.05% EDTA) and washed three times in a buffered saline solution. The sheet was placed on one half of the mucosal defect created by vestibuloplasty. The other half of the defect was covered by a conventional split-thickness skin allograft. The grafts were held in place by a radial denture fixed with permiscureuline sutures. Three months after vestibuloplasty, punch biopsies of each grafted site were taken and processed for light- and transmission electron microscopy to examine the regenerative capacity of the palatal mucosal grafts. It was found that the grafted skin allografts and palatal mucosal grafts had healed completely. The study showed that bone healing was better in follicular cysts and odontogenic keratocystic lesions compared to other cysts.

AnophthalmosSIMJID is a complex autosomal recessive disorder which may be caused by mutations in the ANOS1 gene, located on chromosome 10. The symptoms of anophthalmosSIMJID include congenital absence of one or both eyes, absence of the optic vesicle, anomalies of the anterior chamber, iris, lens, and cornea, and absence or hypoplasia of the optic nerve. The disorder is characterized by a lack of development of the eye and the associated structures.

Oral and cutaneous soft tissue healing following ligation with an Embus Ligation Pin. J. H. Forgay, R. J. Evermore, Biostics Technology and UCL, School of Dentistry, San Clemente and Los Angeles, CA, USA.

An embus ligating pin that employs a hollow tube fiberoptic ligation system is effective for surgical interventions of soft tissue, bone and dental hard tissues. In this study, the effects on oral and skin tissues were assessed. Thirty New Zealand white rabbits were anesthetized with IV pentothal and wounds were made on the ventral tongue mucosa, supracricatilaginous skin of the ear and dorsal skin of the back. Two types of wounds were induced: I, a circular 3 mm open wound and 2, a linear cut, 5 mm in length. One set of wounds was introduced with a punch biopsy instrument (circular wound) or scalpel (linear wound), the other with the embus ligating device via a hemostasis unit, and operated on in line to the punch and 3 wounds were cauterized. Animals were euthanized at 8 hrs, 24 hrs, 48 hrs, 7 days and 30 days. At the time of surgery, bleeding occurred with punch and scalpel wounds whereas there was no bleeding encountered with the ligating device wounds. The healing process was assessed histopathologically. Both types of wounds showed comparable healing with a neutrophils infiltrate at 8 hrs, 24 hrs and 1 week and formation of a granulation tissue and bed. At 7 days, epithelialization was established and all wounds were resolved by 30 days. Wound healing over the ear cartilage was delayed for both conventional surgical and laser wounds. It was observed that the embus ligating system is effective for soft tissue surgery, can be employed with no microscopic hemorrhage and without clinical histopathologic wound repair processes comparable to conventional surgical wounds.


Distraction osteogenesis has been used to lengthen long bones and the mandible and in this study the technique was applied to augment the atrophic mandible. Four dogs had their left premolars and first molars extracted and four small drill holes were made in the buccal cortex. The holes were placed horizontally. After ten weeks for integration, transfer impressions were used to fabricate a distraction device which was secured to the implants with screws. A split thickness skin graft was inserted and the distraction device was immediately placed. After 7 days for healing the device was distracted superiorly 1/2 mm twice a day for 10 days for a total distraction of 10 mm. Soft tissue supported the bone graft and healed. After 7 weeks, bone had formed within the distraction gap with an intact cortex. Serial decalcified sections indicated dense bone formation along the areas adjacent to the osteotomy, with no sign of bone resorption at the center. This study shows that distraction osteogenesis is a viable technique for ridge augmentation in dogs. Supported by NIDR TR3-DE07237-03.