

"ژورنال های منتخب الزویر در حیطه دندانپزشکی"

چکیده ی مقاله های زیر در صورت تمایل قابل ترجمه می باشند

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1. Most Downloaded

Tissue engineering in dentistry

Abstract

Objectives

of this review is to inform practitioners with the most updated information on tissue engineering and its potential applications in dentistry.

Data

The authors used "PUBMED" to find relevant literature written in English and published from the beginning of tissue engineering until today. A combination of keywords was used as the search terms e.g., "tissue engineering", "approaches", "strategies" "dentistry", "dental stem cells", "dentino-pulp complex", "guided tissue regeneration", "whole tooth", "TMJ", "condyle", "salivary glands", and "oral mucosa".

Sources

Abstracts and full text articles were used to identify causes of craniofacial tissue loss, different approaches for craniofacial reconstructions, how the tissue engineering emerges, different strategies of tissue engineering, biomaterials employed for this purpose, the major attempts to engineer different dental structures, finally challenges and future of tissue engineering in dentistry.

Study selection

Only those articles that dealt with the tissue engineering in dentistry were selected.

Conclusions

There have been a recent surge in guided tissue engineering methods to manage periodontal diseases beyond the traditional approaches. However, the predictable reconstruction of the innate organisation and function of whole teeth as well as their periodontal structures remains challenging. Despite some limited progress and minor successes, there remain distinct and important challenges in the development of reproducible and clinically safe approaches for oral tissue repair and regeneration. Clearly, there is a convincing body of evidence which confirms the need for this type of treatment, and public health data worldwide indicates a more than adequate patient resource. The future of these therapies involving more biological approaches and the use of dental tissue stem cells is promising and advancing. Also there may be a significant interest of their application and wider potential to treat disorders beyond the craniofacial region.

Clinical Significance

Considering the interests of the patients who could possibly be helped by applying stem cell-based therapies should be carefully assessed against current ethical concerns regarding the moral status of the early embryo.

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<http://www.sciencedirect.com/science/article/pii/S0300571214001420>

2. Recent Article

The role of copper nanoparticles in an etch-and-rinse adhesive on antimicrobial activity, mechanical properties and the durability of resin-dentine interfaces

Abstract

Objectives

To evaluate the effect of addition of copper nanoparticles at different concentrations into an etch-and-rinse adhesive (ER) on antimicrobial activity, Knoop microhardness (KHN), *in vitro* and *in situ* degree of conversion (DC), as well as the immediate (IM) and 2-year (2Y) resin-dentine bond strength (μ TBS) and nanoleakage (NL).

Methods

Seven experimental ER adhesives were formulated according to the amount of copper nanoparticles incorporated into the adhesives (0 [control], 0.0075 to 1 wt.%). We tested the antimicrobial activity of adhesives against *Streptococcus mutans* using agar diffusion assay after IM and 2Y. The Knoop microhardness and *in vitro* DC were tested after IM and 2Y. The adhesives were applied to flat occlusal dentine surfaces after acid etching. After resin build-ups, specimens were longitudinally sectioned to obtain beam-like resin-dentine specimens (0.8 mm²), which were used for evaluation of μ TBS and nanoleakage at the IM and 2Y periods. In situ DC was evaluated at the IM period in these beam-like specimens. Data were submitted to appropriate statistical analyses ($\alpha = 0.05$).

Results

The addition of copper nanoparticles provided antimicrobial activity to the adhesives only in the IM evaluation and slightly reduced the KHN, the *in vitro* and *in situ* DC (copper concentrations of 1 wt.%). However, KHN increase for all concentrations after 2Y. After 2Y, no significant reductions of μ TBS (0.06 to 1% wt.%) and increases of nanoleakage were observed for copper containing adhesives compared to the control group.

Conclusion

Copper nanoparticles addition up to 0.5 wt.% may provide antimicrobial properties to ER adhesives and prevent the degradation of the adhesive interface, without reducing the mechanical properties of the formulations.

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[http://www.jodjournal.com/article/S0300-5712\(17\)30091-X/fulltext](http://www.jodjournal.com/article/S0300-5712(17)30091-X/fulltext)

3. Most Cited

Statistical methodology in oral and dental research: Pitfalls and recommendations

Abstract

Objectives: This study describes the pitfalls for commonly used statistical techniques in dental research and gives some recommendations for avoiding them. It also explores the potential of some of the newer statistical techniques for dental research. Methods: Each of the commonly used techniques e.g. descriptive statistics, correlation and regression, hypothesis tests (parametric and non-parametric) and survival analysis are explored with examples and recommendations for their use are provided. Common sources of error including those of study design, insufficient information, ignoring the impact of clustering and underuse of confidence intervals are outlined. The potential of statistical techniques such as multivariate survival models, generalized estimating equations and multilevel models are also explored. Conclusions: Reviews of published dental research repeatedly identify statistical errors in the design, analysis and conclusions of the study. Educating researchers on common pitfalls and giving recommendations for avoiding them may help researchers to eliminate statistical errors. Developments in statistical methodology should be routinely monitored to ensure the most appropriate statistical methods are used in dental research.

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4. Open Access Article

مقاله ی زیر بصورت کامل قابل دریافت و در صورت تمایل قابل ترجمه می باشد

The effect of first and second premolar extractions on third molars: A retrospective longitudinal study

Abstract

Objectives

To analyse the effect of first and second premolar extractions on eruption space for upper and lower third molars and on third molar position and angulation during orthodontic treatment.

Methods

The sample consisted of 296 patients of which 218 patients were orthodontically treated without extraction and 78 patients with extraction of first or second premolars. The eruption space for third molars was measured on pre- and posttreatment lateral cephalograms, whereas the angulation, vertical position, the relation with the mandibular canal and the mineralization status of third molars were evaluated using pre- and posttreatment panoramic radiographs. All data were statistically analyzed.

Results

The increase in eruption space and the change in vertical position of upper and lower third molars significantly differed between patients treated with and without premolar extractions, whereas the change in angulation, relationship with the mandibular canal and mineralization status of the third molars did not significantly differ between patients treated with and without premolar extractions.

Conclusions

The retromolar space and the position of third molars significantly change during orthodontic treatment in growing patients. Premolar extractions have a positive influence on the eruption space and vertical position of third molars, whereas they do not influence the angular changes of third molars. Due to the retrospective character of the study, these conclusions should be carefully considered. Further prospective research is necessary for better insights into this complex topic.

Clinical significance

This study stresses the importance of considering the possible effects of orthodontic treatment on third molars during treatment planning.

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