njivao se je na temelju kliničkih, radiografskih i estetskih kriterija. Vizualna analogna skala ponuđena je pacijentima za procjenu njihova ukupna zadovoljstva ishodom liječenja. Estetski ishod svrstan je u tri kategorije: 1. slaganje (razlika manja od 0,5 mm), 2. odstupanje (razlika od 0,5 do 1,5 mm) i 3. neslaganje (razlika veća od 1,5 mm). Rezultati su pokazali da su svi zubi preživjeli bez znakova resorpcije korijena i ankiloze, ali je endodontasko liječenje provedeno u 70% zuba. Estetski izgled nakon početnoga preoblikovanja klasificiran je kao slaganje u svim slučajevima i u 80% slučajeva nakon 7,5 do 11,5 godina. Istraživanje je pokazalo da je ukupno zadovoljstvo pacijenata ishodom liječenja vrlo visoko (VAS = 87,1). Transplantacija premolara na mjesto sjekutića sigurna je metoda liječenja koja daje visoko predvidive funkcijske i estetske rezultate.

Autotransplantation of Premolars to the Central Maxillary Position: A Clinical and Radiographic Follow-Up Study

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Autotransplantation of premolars to replace missing maxillary incisors in young patients can provide reestablishment of normal function and aesthetics. However, there is a need to assess function and aesthetic appearance of transplanted teeth in a long-term perspective. The objectives of the present study were to evaluate success of treatment and aesthetic results of transplanted premolars after 7.5 to 11.5 years of follow-up. The purpose was also to evaluate whether transplantation procedure can produce predictable functional and aesthetic results after a longer time of intraoral service. The material comprised 10 patients with transplanted teeth to the position of maxillary central incisors. At the time of transplantation patients were aged between 9 and 14 years (M = 12 years). All of them were treated at the Department of Paediatric Dentistry, School of Dental Medicine. After transplantation all teeth were splinted with a wire-composite splint for two weeks, and reshaped using composite after three months. The reshaped teeth were compared with contralateral incisors regarding morphology, colour and overall aestethics. Follow-up ranged from 7.5 to 11.5 years (average) years). The outcome of tooth transplantation was assessed using clinical, radiographic and aesthetic criteria. The visual analog scale was submitted to the patients to assess their overall satisfaction with procedure outcome. The aesthetic outcome was placed into three categories: 1. Match (difference less than 0.5 mm), 2. Deviate (difference from 0.5 to 1.5 mm), and 3. Mismatch (difference more than 1.5 mm). The results showed that all teeth survived without signs of root resorption and ankylosis, although endodontic treatment was performed in 70 percent of teeth. Aesthetics after initial reshaping was scored as matched in all cases, and in 80 % after follow-up of 7.5 to 11.5 years. The study showed that overall patients' satisfaction with treatment outcome was very high (VAS = 87.1). Transplantation of premolars to the incisors position represent a safe method that gives highly predictable functional and aesthetic results.

Utjecaj doksiciklina na preoblikovanje kosti nakon terapije periapeksne lezije

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Svrha je istraživanja bila ocijeniti preoblikovanje kosti nakon endodontske terapije periapeksnih lezija kombinirane s uporabom doksiciklina, mjerenjem površine osteoida, debljine osteoida, osteoklastnog indeksa i broja upalnih stanica u usporedbi s preoblikovanjem kosti nakon endodontske terapije bez uporabe antibiotika na psećemu modelu.

Pokus je izveden na šest pasa mješanaca. Endodontska je terapija učinjena 35 dana nakon namjernoga trepaniranja pulpne komore. Mehanička obrada ProFile® Ni-Ti rotirajućim instrumentima, crown-down tehnikom, izvedena je na 39 korijenskih kanala koji su zatim punjeni Thermafill® obturatorima i Top Seal® cementom, na radiološki potvrđenoj duljini do apeksne delte. Kaviteti su zatim ispunjeni amalgamom. Životinje su podijeljene u skupinu 1 (antibiotska; tri životinje; 21 korijen) i u skupinu 2 (neantibiotska; tri životinje; 17 korijena). Neposredno nakon

endodontske terapije životinje iz skupine 1 primale su doksiciklin (10 mg/kg, Hiramicin®, Pliva d.d., Zagreb, Hrvatska) tijekom 12 dana. Sve životinje su žrtvovane 35. dana nakon endodontske terapije, te su čeljusti uklopljene u metil-metakrilat. Nedemineralizirani rezovi debeli 5 µm obojeni su Toluidinskim modrilom. Histomorfometrijski indeksi (površina osteoida, debljina osteoida, osteoklastni indeks i broj upalnih stanica) mjereni su svjetlosnim mikroskopom služeći se računalnim programom (ISSA, Vams, Zagreb, Hrvatska).

Vrijednosti debljine osteoida (skupina 1: 15,33 µm ± 33,49; skupina 2: 15,62 µm ± 7,41; p > 0,05) i broja upalnih stanica (group 1: 117,16 ± 38,66 ; group 2: 111,39 ± 75,81; p>0,05) nisu pokazale statistički znatne razlike između skupina. Razlika između skupina statistički je bila znatna između mjerenih vrijednosti površine osteoida i osteoklastnog indeksa. Površina osteoida veća je u skupini 1 (skupina 1: 30,56% ± 15,51; skupina 2: 10,34% ± 11,60; p < 0,0001). Osteoklastni je indeks niži u skupini 1 (skupina 1: 43,13 mm - 2 ± 41,25; skupina 2: 111,34 mm - 2 ± 115,46; p<0,001). Za statističke raščlambe uporabljen je Mann-Whitney U test.

Ne postoji razlika u debljini osteoida i broju upalnih stanica među skupinama. Površina osteoida je veća, a osteoklastni indeks je manji u skupini 1 (antibiotska skupina), što upozorava na veći potencijal koštanoga cijeljenja.

Doxycycline Influence on Bone Remodelling after Therapy of Periapical Lesions

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The aim of the study was to evaluate bone remodelling after endodontic therapy of periapical lesions combined with doxycycline administration by measuring osteoid surface, osteoid thickness, osteoclast index and inflammatory cell count in comparison with bone remodelling after endodontic therapy whithout antibiotic administration in dogs.

The experiment was conducted on six mongrel dogs. Endodontic therapy was performed 35 days after artificial dental pulp exposure. A total of 30 roots were cleaned and shaped by Crown-down technique with Profile® rotary instruments and filled with Thermafill® at the lenght to the apical delta confirmed radiographically. Cavities were sealed with amalgam. Animals were then divided into group 1 (antibiotic, three animals with 21 roots) and group 2 (non-antibiotic, three animals with 17 roots). Immediately after endodontic therapy, animals in group 1 were treated by administration of doxycycline (10 mg/kg, Hiramicin, Pliva d.d., Zagreb, Croatia) for a period od 12 days. All animals were sacrified 35 days after endodontic therapy and mandibles embedded in methylmetacrylate. Undemineralized sections 5 µm thick were stained with toluidine blue. The histomorphometric indices (osteoid surface, osteoid thickness, osteoclast index and inflammatory cell count) were measured by light microscopy using computer program (ISSA, Vams, Zagreb, Croatia).

Osteoid thickness (group 1: 15.33 µm ± 33.49; group 2: 15.62 µm ± 7.41 ; p > 0.05) and inflammatory cell count (group 1: 117.16 ± 38.66; group 2: 111.39 ± 75.81; p > 0.05) did not show statistically significant difference. The difference between groups was statistically significant in measured indices of osteoid surface and osteoclast index. Osteoid surface was greater in group 1 (group 1: 30.56 ± 15.51; group 2: 10.34% ± 11.60; p < 0.0001). Osteoclast index was lower in group 1 (group 1: 43.13 mm - 2 ± 41.25; group 2: 111.34 mm - 2 ± 115.46 ; p < 0.0001). Statistical analysis was performed using Mann-Whitney U test.

There was no difference in osteoid thickness and inflammatory cell count between the two groups. Osteoid surface was higher and osteoclast index lower in group 1 (antibiotic treated group) which indicates greater bone tissue healing potential.