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ORTHODONTICS

Correction of anterior dental crossbite with composite as an inclined plane

Sari S, Gokalp H et al. *Int J Paediatr Dent* 2001; **11**: 201-208

In 1 week, 33 out of 35 single incisor tooth crossbites were corrected.

Anterior dental crossbite (ADC) is where, in an otherwise normal occlusion, a mandibular tooth is labioverted in crossbite with a palatoverged maxillary tooth. Dental crossbite is to be distinguished from skeletal crossbite which may require complex orthodontic or orthognathic surgery treatment. In this study, 35 children aged 7-11 were treated for ADC of 1 upper incisor occluding with 2 lower incisor teeth.

Composite resin was applied to the labial surface of both lower incisors to produce a 45° inclined plane 3-4 mm thick, which was the only contact between the 2 arches. In 1 week, all but 2 ADCs were resolved and the composite was removed 1 week later. The dentition continued to be stable 3 months later. In 1 case with a deep overbite and 1 case with incisor rotation, ADCs were not resolved. The authors consider these conditions to be contraindications to the procedure.

ENDODONTICS; TRAUMA

Vertical root fracture in endodontically treated teeth: a review of 25 cases

Llena-Puy MC, Forner-Navarro L et al. *Oral Surg* 2001; **92**: 553-555

Teeth restored with composite or bonded amalgam were associated with earlier vertical root fractures (VRF) than those restored with conventional amalgam.

In a Spanish group practice, 25 cases of VRF were identified over a 2 year period from patients who had received root canal treatment in the practice over the previous 12 years (step-back preparation, lateral-vertical condensation). VRF occurred in 1 maxillary cuspid, 9 maxillary second premolars, 6 maxillary and 9 mandibular first molars.

Mean time to VRF was 4.5 yrs; in 9 cases, coronal fracture preceded VRF, and in 17 cases a prefabricated cylindrical post (associated in literature with least risk of VRF) was placed. In these 2 groups of teeth, VRF occurred respectively a mean 8 yrs and 7 yrs later. Mean time from restoration to VRF was 9.5 yrs for conventional amalgam, 2.5 yrs for bonded amalgam and 2 yrs for composites. Presence of earlier restorations or use of full crown coverage did not alter time to VRF.

ORTHODONTICS

A randomized controlled trial to investigate brackets bonded with a hydrophilic primer

Littlewood SJ, Mitchell L et al. *J Orthod* 2001; **28**: 301-305

Bond failures increased with hydrophilic primer.

A prototype hydrophilic primer was developed to reduce the problems of moisture contamination when bonding orthodontic attachments to teeth. In 33 patients undergoing fixed appliance therapy, a split-mouth design was used with one side randomly allocated to conventional primer, and the other to the hydrophilic primer. Because the primers were of different consistency, patients were blinded but not the operator.

During the study there were 15 patients with at least 1 failure of conventionally primed bonds, and 27 with hydrophilic primer failures. Respective total numbers of failed bonds were 18 and 50. Survival analysis showed that the increased risk of failure (hazard ratio) with hydrophilic primer was 2.2. The authors discuss reasons for this outcome, and consider that a different chemical approach to the problem is needed.

IMPLANT DENTISTRY

Near-fatal airway obstruction after routine implant placement

Niamtu J *Oral Surg* 2001; **92**: 597-600

This unexpected emergency was caused by perforation of the lingual mandibular cortex and subsequent haemorrhage.

Following preparation of sites for 2 threaded implants to support a mandibular prosthesis in a 64-year-old female, the preparations were probed and a small lingual perforation noted at the inferior lingual aspect of each. The left side perforation was larger, and during probing started to bleed. The socket was obturated with collagen sponge gel and the floor of the mouth was pressed. In 2 min, the tongue, floor of mouth and submental area swelled markedly, with accompanying respiratory distress. Arterial oxygen saturation dropped, but returned to normal after forcible insertion of an airway with positive pressure 100% oxygen.

The patient was transferred to hospital for tracheostomy, with subsequent ventilation in intensive care, and was discharged after 6 days, when the swelling was much reduced. The likely origin of haemorrhage was damage to the lingual and/or submental arteries, though muscle damage could not be ruled out. The author advises several ways of reducing the likelihood of such emergencies.