A New Approach to Root Torquing of a Palatally Displaced Tooth in the Begg Technique

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One of the most common clinical conditions encountered is the presence of palatally blocked out maxillary incisors (especially lateral incisors) (Fig. 1).

Whenever lateral incisor(s) are positioned palatally and in crossbite (Fig. 2), special care is needed during the treatment. A pure labial crown tipping occurs when the teeth are aligned in the maxillary anterior arch form by Begg Technique and the root of the tooth remains palatally displaced. In order to ensure good esthetics and stability, it is important to torque the lateral incisor root after the crown alignment is complete.

All prescriptions in the pre-adjusted edgewise appliance technique for maxillary anterior teeth have built in positive torque values i.e. labial crown torque. If orientation of the bracket is reversed and placed on the tooth (i.e. distogingival wing of bracket should now be situated on mesioincisal corner of the tooth) the effective torque is reversed (Fig. 3). The reversed bracket on such teeth would help us attain labial root torque for the tooth.

Thus, we may achieve root torque for palatally displaced tooth by merely changing the bracket on a particular tooth (Fig. 4).

Advantages
- Simple and effective.
- Use of reciprocal torque auxiliary in stage-3 eliminated.
- It may be successfully applied in class-2, div.-2, cases to torque maxillary incisor roots.
- Reduces the amount of wire bending needed during finishing and detailing.

Technique of reversal of the bracket may also be successfully applied in pre-adjusted edgewise appliance technique where labial root torque of maxillary anterior teeth is desired. Reversal of the bracket does not change the built in tip of the bracket.

Fig. 1: Front view of palatally blocked out maxillary incisor.

Fig. 2: Occlusal view showing palatal displacement of maxillary lateral incisor.

Fig. 3: Reversibly oriented pre-adjusted edgewise bracket on maxillary lateral incisor.

Fig. 4: Tooth alignment and root torquing in progress on maxillary lateral incisor.

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A Comparison between Friction and Frictionless Mechanics with a New Typodont Simulation System

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In this article, the authors compared the effectiveness of friction and frictionless mechanics in the case of maxillary canine retraction with a new typodont simulation called the Calorific machine system. The system contained the temperature controls which allowed heat to be conducted to the electro thermodynamic (ETD) teeth. The ETD teeth had roots of chrome cobalt alloy. Sticky wax was used as an artificial alveolar bone material. Canine retraction was done with sliding mechanics with a Nickel-titanium closed coil spring. In the frictionless method, a Paul Gjessing type (PG Spring) canine retraction spring was used. The total amount of canine retraction was 5.97 mm in friction mechanics and 5.7 mm in frictionless mechanics. The average anchorage loss was – 2.92 mm in friction mechanics and – 3.01 mm in frictionless mechanics. No statistical differences were found. The tooth axis change demonstrated that the friction method was slightly more prone to tipping which was of 9.08° as compared to 6.23° in the frictionless method. The friction method showed more crown extrusion of the canine and second premolar but the frictionless method caused significantly greater levels of rotation of the canine and first molar. None of the differences were found to be of clinical value.


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This study described the eruptive path of the maxillary and mandibular third molars after the extraction of the second molars using radiographs and assessed the final position and size of the third molars from study models. The sample consisted of 63 patients. The mean age at extraction of second molars was 13 years 3 months. A combination of treatment modalities was used. The panoramic radiographs were digitized. Linear and angular measurements were calculated with a custom-designed program that incorporated the size of the molars from the study models. Five criteria were scored: mesiodistal angulation, buccolingual angulation, rotation, contact with adjacent first molar and occlusion. Results showed that root development of the third molar showed marked curvature and both maxillary and mandibular third molars erupted into acceptable position after extraction of second molars. Richardson’s total score system showed that 99% of the mandibular third molars and 100% of maxillary third molars were in a good position. In the second part of the study, the functional occlusion, and plaque index, bleeding on probing and attachment loss were studied. Results showed that the third molars maintain a good functional occlusion and the periodontal health was good. There was also no correlation between third molar position and the presence of gingivitis or periodontitis suggesting that the inclination of molars had no effect on the incidence of disease.

A Clinical and Histological Evaluation of Titanium Mini-Implants as Anchors for Orthodontic Intrusion in the Beagle Dog


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In this article the authors evaluated the use of titanium mini-implants in the correction of anterior open bite with intrusion of the mandibular posterior teeth from the clinical view point and also studied peri-implant tissue reactions histologically in beagle dogs. Three adult male beagle dogs were used in the study. Six mini-implants (99.5% titanium, 1 mm in diameter, 4 mm in length) were placed around the mandibular third premolar on each side in the dogs. An intrusive force of 150 g was applied between the inter-radicular implants. Oral radiographs, oral impressions, and dental radiographs were taken at intervals of 2 or 4 weeks. After 12 to 18 weeks of
orthodontic intrusion, the animals were sacrificed and their mandibles were dissected and prepared for histologic and fluorescent observation. The results showed that all the third premolars intruded an average of 4.5 mm during 14 to 18 weeks of force application. No loaded implant showed any displacement. There was mild root resorption at the root apex and furcation area. There was little difference in the periodontal conditions in the peri-implant zone compared with the premolars. Longitudinal morphometrical evaluation of the peri-implant bone showed slightly higher calcification in the loaded implants. The authors suggest that mini-implants can be used as temporary implant for orthodontic anchorage.

Nickel-Titanium Mandibular Bonded Lingual 3-3 Retainer: For Permanent Retention and Solving Relapse of Mandibular Anterior Crowding


(American Journal of Orthodontics and Dentofacial Orthopedics 2001; 119:443-9)

In this article, the authors described the clinical procedures and studied the effects of the NiTi mandibular bonded lingual 3-3 retainer on the mandibular dental arch. The study included 18 patients who had lower anterior crowding and who needed orthodontic treatment. 018" NiTi mandibular archwires (Sentalloy; GAC International, Islandia, NY) were used to retreat the mandibular anterior crowding. The NiTi wires were tied loosely by ligature wires and then bonded with light-cured resin onto the lingual surfaces of the canines along the contact points of the mandibular anterior teeth. The archwire was tightly tied to fit each incisor one by one. The ligature wires controlled the individual tooth movement. After completion of retreatment the ligature wires were removed and the NiTi archwires were left insitu for permanent retention. Mandibular irregularity index, intercanine width, arch length, and arch depth of each cast taken at the beginning of retreatment (T1), at 2(T2) 4(T3) 6(T4) months after initiation and after completion of previous orthodontic treatment (T0) were measured. Results showed that the average irregularity index increased from 1.3 mm to 3.5 mm (T0 to T1). All arch dimensions decreased in this period from 29.5 to 28.2 mm for intercanine width, from 19.5 to 19.2 mm for arch depth, and from 58.4 to 54.7 mm for arch length. As the irregularity index decreased, the mandibular arch dimensions increased to prerelapse values. The NiTi mandibular bonded lingual 3-3 retainer can be used as an active lingual appliance for retreating or treating mandibular anterior crowding without lingual brackets or as a passive bonded lingual retainer after a period of active orthodontic treatment.

ERRATUM

1) The numbering of pages of the second issue of Journal of Indian Orthodontic Society for 2001 should start at page 29 and not at 1 and end on page 64, instead of 37. Error is regretted.

2) Kazunori Yamaguchi had the following co-authors for "Long term observation of lip function in open bite patients": Kazuo Tanne*, Eiji Tanaka**, Nozomi Tomiyama***, Keiko Nagaoka****.

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