Evaluation of different obturation techniques using gutta-percha and a resin based material

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Objectives: To evaluate and compare the obturation quality between canals obturated with gutta-percha (GP) and resin-based material namely, EndoREZ® (ER). Methods: A total sample of 90 mandibular premolar teeth was randomly divided into two main groups (2×45 canals) which were GP group and resin-based group. These groups were further divided into 3 subgroups (n=15) according to different obturation techniques: Cold lateral compaction (CLC), warm lateral compaction (WLC) and single cone (SC). The teeth were subsequently embedded in resin and sectioned horizontally at 1, 3, 6 and 9 mm from the obturated canal terminus. All sections were then viewed with stereomicroscope (OLYMPUS szx7, Olympus Corp., Tokyo, Japan) at 40x magnification and microscopic images were obtained. The area occupied by core filling materials and sealers was determined using Cell^® D software. Then, for each section, the ratio of voids to root canal area was calculated. Results: In CLC, the area of ER core filling materials was significantly higher than the area of GP core filling material at 1 mm level where p=.012 and at 3 mm level where p=.023 (p<.05). Similarly, in WLC, the area of ER core filling material was significantly higher than the area of GP core filling materials except that these were identified at the 3 mm level where p=.006 and at 9 mm level where p=.007 (p<.05). In SC, the area of ER core filling materials was significantly higher than the area of GP core filling material at all levels i.e. at 1mm level p=.002, 3 mm level p=.000, 6 mm level p=.001 and 9 mm level p=.000 (p<.05). Conclusions: The resin based material was superior to the gutta-percha in the percentage of core filling material that occupying the canal filled area. This was most evidence especially in SC where a higher percentage of core filling material appeared at all levels (1, 3, 6 and 9 mm).

A study to determine the morphology and location of incisive canal and foramen

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Objectives: 1. To determine incisive canal length and width. 2. To measure anterior maxillary bone thickness anterior to the incisive canal. 3. To determine incisive foramen location amongst Malays and Chinese. Methods: Ninety-four patients who were examined with Cone Beam Computed Tomography (CBCT) were selected according to gender, age, and ethnic. From sagittal views the incisive canal morphology, location and the anterior maxillary bone thickness were identified and evaluated using CBCT. Length of the canal was measured as a distance between the nasal foramen and the incisive foramen, inner width of the canal measured at three levels (mean calculate). The anterior maxillary bone thickness measured from the outer canal wall to the outer cortical plate of the buccal bone. The location of the incisive canal was the distance between the incisive foramen and the most antero-inferior point of the residual ridge. Results: The canal appeared with a mean length of 16.32mm. The right incisive canal was longer than the left canal (mean of the right canal=16.65mm and mean of the left canal=15.98mm). Incisive canal was wider in males than females especially in Malays (mean in males=4.05mm and mean for female=3.16mm). The mean anterior maxillary bone thickness = 7.54mm. The bone thickness showed great variation reduction with age (P < .05) affecting the position of the incisive foramen. In general bone thickness was greater in males than females (P < .05) especially in Chinese (mean bone thickness in males=8.21mm and in females=6.76mm). Conclusion: The anatomical variability in the dimensions of incisive canal and anterior maxillary bone thickness may be clinically important during surgical procedure, especially implant placement. Caution may be necessary for Malay males (larger canals) and Chinese females (thin anterior bone) to avoid potential complications. For that reason, the carefully assessment of this area during the pre-operative planning procedures is important. CBCT cross-sectional imaging may serve this purpose.
S09  Evaluation of different obturation techniques using gutta-percha and a resin based material  N.A.AL AFIFI, M. ABDULLAH, Faculty of Dentistry, University of Malaya, Kuala Lumpur

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S10  A study to determine the morphology and location of incisive canal and foramen  S.M.AI-AMERY, P. NAMBIAR, M. JAMALUDIN  Faculty of Dentistry, University of Malaya, Kuala Lumpur

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