

EVALUATION OF DIFFERENT GUTTAPERCHA TECHNIQUES FOR ROOT CANAL OBTURATION

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BACKGROUND

The three-dimensional hermetic root canal obturation presents one of the most important conditions for successful prognosis in endodontic therapy. The objective of this study was evaluated the quality of three different gutta-percha techniques for root canal obturation.

ENDODONTIC TREATMENT

- ➡ the working length was established with a #10K file at 1mm from the apex
- ➡ Step by step technique for root canal instrumentation
- ➡ #40K, or #45K file depending on the canal's magnitude
- ➡ 2 ml 1% sodium hypochlorite was used between each file change
- ➡ final irrigation with 10 ml of distilled water
- ➡ dried with paper points

Score: 1 - good
2 - acceptable
3 - unacceptable

STUDY DESIGN

Sixty single root human teeth was used in this study. According to technique of gutta-percha application teeth were divided in three groups:

I group – 20 endodontic treated teeth obturated with AH plus sealer and Gutta Flow technique;

II group – 20 endodontic treated teeth obturated with AH plus sealer and single cone gutta-percha technique

III group – 20 endodontic treated teeth obturated with AH plus sealer and Thermafil gutta-percha technique.

- the crowns were cut with turbine and diamond burs.
- teeth roots were divided on three cross-cut segments: orifice, middle and apical third.
- quantitative and qualitative analysis and evaluation of canal obturation was performed on Light microscope OLYMPUS® SZ61 by two irrespective researchers.

RESULTS

The first group of samples showed good canal obturation, especially samples with master gutta-percha cone. Acceptable results showed the second group, while the third group samples showed the best results of root canal obturation.



a) Coronal third



b) Middle third



c) Apical third

Figure 1 a, b and c: Gutta Flow technique



a) Coronal third



b) Middle third



c) Apical third

Figure 2 a, b and c: Single cone gutta-percha technique



a) Coronal third



b) Middle third



c) Apical third

Figure 3 a, b and c: Thermafil gutta-percha technique