ABSTRACT

Aim:

The Aim of the study was to evaluate the obturation quality in oval shaped canals using SAF system and Wave One system by using computed tomography-AN INVITRO STUDY

Methodology:

60 mandibular incisor teeth were selected. Preoperative three dimensional cross sectional images were obtained using Computed Tomographic scanning. These teeth were divided into two groups Group A (SAF)(n=30) is instrumented using SAF and Group B (WaveOne)(n=30) was instrumented using Wave One system. Teeth were subjected to CT analysis. Each group was then further subdivided into two groups with 15 teeth each. In SAF group, 15 teeth were obturated using cold lateral compaction and remaining 15 teeth were obturated using thermoplastized gutta percha technique. The same method of obturation was done in Wave One group. Teeth were then subjected to CT scanning to evaluate the quality of obturation. Normality was checked using Shapiro-Wilk test. All comparisons were done using Student t test.

Results:

The results of the study revealed that the mean value of obturation in the SAF group for thermoplastized obturating techniques was 3.63±1.13 and
in the cold lateral compaction, the mean value was 15.48±3.24. There was statistically significant difference among the thermoplastized obturation technique and cold lateral techniques in the SAF group with a p value of 0.001.

In the WAVE ONE group the mean value of obturation for the thermoplastized technique was 23.24±2.00 and in the cold lateral compaction technique the mean value was 32.71±5.32.

There was statically significant difference among the thermoplastized gutta-percha technique and cold lateral compaction technique in the wave one group with the p value of 0.001. When the thermoplastized technique was compared among SAF system and wave one system, there was statistically significant difference with a p value of 0.001. Similarly then cold lateral technique was compared in the SAF and Wave One systems there was statistically significant difference among them with a p value of 0.001.

Conclusion

It is observed that the obturation quality was better in the SAF group obturated with thermoplastized technique than with cold lateral compaction technique and it was also better when compared to Wave One system groups obturated with similar technique.

Key words: SAF system, WaveOne system, PGFA, cold lateral compaction and thermoplastized obturation technique