Oral Presentation Ⅲ

◆013

Comparison of warm gutta-percha condensation techniques in ribbon shaped canal : weight of filled gutta-percha after canal obturation

Hyun-Hee Kim, Kyung-Mo Cho, Jin-Woo Kim
Department of Conservative Dentistry, College of Dentistry, Kangnung National University

The purpose of this study to evaluate several warm gutta-percha filling techniques using weight changes of resin blocks before and after canal filling in ribbon shaped canal. Simulated ribbon shaped root canals in 30 transparent resin blocks were instrumented to #40 using 06 taper Profile. 15 resin blocks were obturated with gutta-percha using cold lateral condensation. Warm lateral condensation using the Endotec Ⅱ was then accomplished on the same 15 blocks. Another 15 resin blocks were obturated using the System B. All canals were obturated without sealer. The resin blocks were weighed after canal preparation and after each subsequent obturation, and then weight changes of the resin blocks were caculated.

The results were as follows.

1. Warm lateral condensation using Endotec Ⅱ produced a dencer obturation of gutta-percha compared with conventional cold lateral condensation. (p<0.01)
2. Continuous wave of condensation using System B produced a dencer obturation of gutta-percha compared with conventional cold lateral condensation. (p<0.01)
3. There was no significant difference between warm lateral condensation and continuous wave condensation.

In conclusion, the warm gutta-percha condensation techniques like warm lateral condensation and continuous wave condensation can be expected to bring favorable canal obturation results in ribbon shaped canals.

Key words : Ribbon shaped canal, Lateral condensation, Warm lateral condensation, Continuous wave of condensation

◆014

Shaping ability of Ni-Ti Rotary files in combination with GT Rotary Ni-Ti file

D.R. Shin*, S.J. Park, G.W. Choi
Department of Conservative Dentistry, Kyung-Hee Univ., Seoul, Korea

The objective of this study was to compare the apical shaping ability of the ProFile .04 taper, Lightspeed and HERO 642 rotary instruments and to assess the combined effect of GT Rotary files to Lightspeed and HERO 642 instruments. Forty-eight resin simulated root canal blocks divided into 4 groups with 12 canals. Forty-eight blocks were prepared by one operator with GT Rotary files using a high torque handpiece at 300 rpm. Thirty-six blocks in the three experimental groups were prepared with ProFile .04 taper file, Lightspeed file, HERO 642 file. The same operator prepared twelve blocks as control with K-Flexofile. All canals were prepared to a working distance of 18mm, and final apical preparation was set to #35. Preparation time, instrument failure, loss of working distance, canal form, canal aberration and transportation were measured. One-way ANOVA/Turkey's test was used to determine significant difference at $\alpha \leq 0.05$ level. The preparation time noted in this study was least in the ProFile 04 group, which involved fewer instruments change, compared with the other rotary instrument groups. Clearly the Ni-Ti instrumentation has potential to speed up canal preparation, compares with hand instrument. No zip, elbow and ledge were created during preparation to that Lightspeed instruments were able to negotiate and prepare at the end-point even those canals with severe acute curves. There were no significant differences among the three rotary instrumentation groups in shaping ability except canal form and transportation but the K-Flexofile group were significantly less than three rotary instrumentation group in preparation time, change of working distance, canal blockage and canal aberration(p<0.05). The Lightspeed group produced with significantly more poor taper canals than the other instruments groups(p<0.05). The Lightspeed group and the HERO 642 group took significantly less transportation than the other instruments groups at the end-point. The Lightspeed group took significantly less transportation than the other instruments groups at the apex of curve(p<0.05).