



Evaluation of sealing ability and adaptation of resin and bioceramic sealers in curved roots (An in-vitro study)

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Abstract

Objective: The purpose of this study was to evaluate sealing ability and adaptation of Resin and Bioceramic sealers in curved canals.

Material and methods: Eighty human mandibular 1st molars which have curved roots ranged from 5° to 15° (Schneider degree) were decoronated, the root length was determined. Instrumentation was done using ProTaper rotary files, Samples were divided into two experimental groups (n=40 for each group) according to the type of sealer used for obturation of root canals (AH Plus(&(TotalFill). Each group was further divided into two subgroups according to the test of evaluation being carried out as sealing ability (n=30) and adaptation (n=10). Sealing ability was evaluated by Dye penetration method (clearing technique) and adaptation using scanning electron microscope. Data was collected and statistically analyzed.

Results: The dye penetration in roots which obturated using TotalFill bioceramic sealer was significantly higher than in roots which obturated using AH plus resin sealer. A statistically significant difference was found between AH Plus and Total Fill BC sealer. Regarding the adaptation, more gaps were observed in samples which obturated using Total Fill BC sealer when compared with samples which obturated using AH Plus resin sealer. The highest mean value was found in (Apical) third followed by (Middle) third, while the lowest mean value was found in (Coronal) third for both sealers, more gaps were observed at the apical level of both sealers types than at the middle and coronal levels.

Conclusion: It was concluded AH Plus resin sealer provides better sealing ability and adaptation than Total Fill BC sealer in curved canals.

Biography

Ahmed M. Abdeelaal is a resident dentist at Sohag University Hospital, Egypt. He is an endodontist at Diamond dental clinic, Egypt.



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