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In Vitro comparison of the microbial leakage of obturation systems: Epiphany with resilon, guttaflow, and ah plus with gutta percha

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Aim: To compare the microbial leakage of three root canal filling materials: AH Plus with Gutta-percha, Epiphany with Resilon, and Guttaflow using *Enterococcus faecalis* as the bacterial marker. **Materials and Methods:** In total, 30 caries free, human maxillary incisors with straight roots were used. The teeth were de-coronated with a diamond disc and the length was standardized for all specimens. Access opening was done through the coronal portion and the working length was determined. All the teeth were prepared to a standardized size apically and coronally. The teeth were then randomly divided into three experimental groups each. After obturation of the root canals, the outer surfaces of the teeth were coated with two layers of nail enamel except the apical 2 mm. The teeth were then subjected for bacterial leakage test using *E. faecalis* as a bacterial marker in dual chamber bacterial leakage model for a period of 30 days. **Statistical Analysis Used:** Chi-square test. **Results:** Results showed that Resilon/Epiphany (Group-2) demonstrated less leakage and Gutta-percha/AH Plus (Group-1) showed maximum leakage with the statistically significant difference between the two ($P < 0.05$). Guttaflow (Group-3) also showed less leakage than Gutta-percha/AH Plus (Group-1) with the statistically significant difference between the two ($P < 0.05$). There was no statistically significant difference between Resilon/Epiphany (Group-2) and Guttaflow (Group-3). **Conclusion:** Resilon/Epiphany and Guttaflow groups demonstrated less microbial leakage than Gutta-percha/AH Plus group.

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