



▼ POST GRADUATES ABSTRACTS

PG - 78 : EFFECT OF PASSION FRUIT JUICE IN REMOVAL OF SMEAR LAYER IN ROOT CANAL OF EX VIVO HUMAN TEETH : A SCANNING ELECTRON MICROSCOPIC STUDY

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Background: Smear layer produced during instrumentation of root canal prevents the penetration of irrigants and intracanal medicaments into dentinal tubules and compromises the fluid tight seal in root canal obturation. The combinations of irrigants used currently Sodium Hypochlorite (NaOCl), EDTA, MTAD remove smear layer but are not without disadvantages such as eroding dentin, causing chemical burns and tissue necrosis. Passion fruit extract (PFE) irrigant, a herbal alternative has been found to possess antimicrobial properties. This study aims to assess its smear layer removing ability and erosive capacity.

Materials and method: 35 single-rooted premolars were divided into 5 groups: 30% passion fruit extract, 17% EDTA, 17% EDTA + 5.25% NaOCl, 30% passion fruit extract+17% EDTA and saline. Following irrigation with the above irrigants each tooth was split into two halves and examined and

scored (modified Torabinejad's criteria) for smear layer removal and erosion (modified Torabinejad's criteria) using Scanning Electron Microscope. Kruskal – Wallis and Mann-Whitney U test were used for statistical analysis.

Results: 30% PFE produced less erosion and statistically significant smear layer removal in coronal and middle third of the root. When combined with 17% EDTA smear layer removal was effective in all the three thirds of the root. Erosive potential of 30% PFE+17% EDTA was less when compared to 17% EDTA + 5.25% NaOCl.

Conclusion: Owing to reduced erosive potential and comparable smear layer removal capacity 30% PFE along with 17% EDTA can be a promising irrigant in endodontics.