





COMPARISON OF EFFICACY OF QMIX, EDTA & SALINE IN SMEAR LAYER REMOVAL: A SCANNING ELECTRON MICROSCOPIC STUDY

AIM AND OBJECTIVE:

To assess the efficacy of QMix, EDTA, and saline irrigating solutions in removing the smear layer with activation using ultrasonics from the root canal dentin of mandibular premolars using a Scanning Electron Microscope.

Gutmann et al., scoring criteria were used for scoring the smear layer.

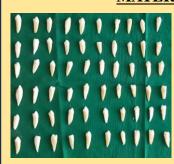
Score 1 - Little or no smear layer (25%)

Score 2 - Little to moderate or patchy mounts of smear layer(25%–50%)

Score 3-Moderate amounts of scattered or aggregated smear layer(50%–75%)

Score 4 - Heavy smear layer covering (>75%)

MATERIALS AND METHOD



60 extracted mandibular premolars



Group A- QMix Group B- EDTA Group C-Normal saline









RESULTS Group A- Qmix* Group B- EDTA Group C- Saline Coronal Middle Apical Chi-Square test p-value >0.05 Group A- Qmix* Group B- EDTA Group C- Saline p=0.503 p=0.134

CONCLUSION:

Apical third of the root canal- **QMix** was statistically significantly more effective

Coronal and middle thirds- QMix, EDTA & Saline statistically performed similarly

REFERENCES: 1. Vemuri S, Kolanu SK, Varri S, Pabbati RK, Penumaka R, Bolla N. Effect of different final irrigating solutions on smear layer removal in apical third of root canal: A scanning electron microscope study. J Conserv Dent. 2016 Jan-Feb;19(1):87-90. doi: 10.4103/0972-0707.173207. PMID: 26957801; PMCID: PMC4760023. 2. Chia MSY, Parolia A, Lim BSH, Jayaraman J, Porto ICCM. Effect of QMix irrigant in removal of smear layer in root canal system: a systematic review of *in vitro* studies. Restor Dent Endod. 2020 May 21;45(3):e28. doi: 10.5395/rde.2020.45.e28. PMID: 32839709; PMCID: PMC7431937.

