The most commonly used root canal sealers in Bangladesh.

Miglani R, et al. (2007) showed that Sealapex's antimicrobial release and alkalinity of sealers which are essential for the success of endodontic treatment. Shantiaee et al. (2010) and Al-Khatib ZZ, Baum RH, Morse DR, et al. (2010) also showed that Sealapex's antimicrobial potential of calcium hydroxide as an indication of which sealer has the potential to eliminate microorganisms in the local site of infection.

Regarding the antibacterial activity of Sealapex, it was found that Sealapex produced the largest inhibitory zones against all tested microorganisms. However, as the time interval increased, the zone of inhibition decreased which was very highly significant (p<0.001).

The studied root canal sealers were: calcium hydroxide, MTA, zinc oxide eugenol (ZOE), zinc oxide eugenol-based root canal sealers and epoxy resin-based root canal sealers. Although the study of Abravanel et al. (1996) showed that Sealapex's antimicrobial effect within a longer time interval, Sealapex's antimicrobial effect was only statistically higher than that of other root canal sealers after 24 hours.

The methodology utilized by Miglani R, et al. (2007) was performed. Independent sample t' test was done for the comparison between the two groups. The P-value was calculated to determine the significance of the results. The means for the study were calculated and the significance of the results was determined using the paired t-test. A P-value less than 0.05 was considered statistically significant.

The results of the present study revealed that both root canal sealers were manipulated according to manufacturer's instruction and placed in prepared wells. 36 agar plates inoculated with pure cultures of selected microorganisms were used. The microorganisms used in this study were: E. faecalis, S. aureus and C. albicans. The agar plates were incubated for 5 days at 37°C. The zone of inhibition of each sealer was measured after 24 hours, 48 hours and 5 days.

The results showed that both root canal sealers were effective against E. faecalis, S. aureus and C. albicans. The zone of inhibition of each sealer was measured after 24 hours, 48 hours and 5 days. The zone of inhibition increased significantly after 48 hours and 5 days compared to 24 hours. However, the efficacy reduced after 48 hours which was highly significant (p<0.001).

Endomethasone was observed against E. faecalis, S. aureus and C. albicans. The mean diameter of zones of inhibition produced against microorganisms was measured after 24 hours, 48 hours and 5 days. The mean diameter of zones of inhibition produced against E. faecalis, S. aureus and C. albicans was 22.08±1.33, 20.16±1.37 and 17.62±1.45 mm, respectively. The zone of inhibition of each sealer was measured after 24 hours, 48 hours and 5 days. The zone of inhibition increased significantly after 48 hours and 5 days compared to 24 hours. However, the efficacy reduced after 48 hours which was highly significant (p<0.001).

The results of the present study revealed that both root canal sealers were effective against E. faecalis, S. aureus and C. albicans. The zone of inhibition of each sealer was measured after 24 hours, 48 hours and 5 days. The zone of inhibition increased significantly after 48 hours and 5 days compared to 24 hours. However, the efficacy reduced after 48 hours which was highly significant (p<0.001).