VERIFICATION OF ATTENDANCE AND PRESENTATION

The International Association for Dental Research verifies that:

Hendra Dharsono

attended the IADR/APR General Session & Exhibition
In Seoul, Republic of Korea, June 22-25, 2016, and presented the following research:

Antibacterial-activity Potential of Terpenoid Derived From Myrmecodia Pendants sp. against Enterococcus Faecalis ATCC 219212
Antibacterial-activity of Terpenoid of Myrmecodia pendans plant against Enterococcus faecalis ATCC 29212

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Objective: Enterococcus faecalis (EF) found to be close-related to the progression of pulpal and periapical re-infections due to its survival nature in harsh environment in the root canal system post-endodontic treatment. It is predominantly isolated from a failed endodontic treatment case. Antibacterial agent used in endodontic treatment plays an important role during mechano-chemical preparation of the root canal in eliminating microorganisms. Chlorhexidine (CHX) is widely used and is an effective antibacterial agent against EF. Previous studies have introduced alternative antibacterial agent extracted from plants. Myrmecodia pendans Merr&Perry (MP), an indigenous plant from Papua, possesses potential antibacterial-active phytochemical compounds and have been used empirically as natural medicine.

Purpose: This study was done to determine a single active compound derived from MP and to investigate its activity against EF ATCC 29212 in comparison to CHX.

Method: Ethyl-acetate soxhlet method was performed to extract MP, subsequently separated and purified through chromatography method to isolate single-compound. Isolated compound structure was then characterized using spectrophotometer UV, IR, 1H-NMR, 13C-NMR, 2D NMR dan MS. Antibacterial activity of the isolated compound was tested using Kirby-Bauer method with 0.5 McFarland bacteria solution in blood agar plate. Isolated compound was diluted to 5,000 and 10,000 ppm with CHX used as positive control. Minimum Inhibitory Concentration (MIC) and Minimum Bactericide Concentration (MBC) were performed. All specimen were tested in triplication.

Result: Following characterization, the compound is determined as terpen group compound of terpenoid. Mean inhibition zones after 24h incubation in blood agar plates for 10,000ppm, 5,000ppm, and positive control are 16.7, 13.6, and 14.6 mm respectively. Terpen MIC against EF is 78.125 ppm with MBC of 2500 ppm.

Conclusion: Terpen isolated from MP shows higher antibacterial activities than CHX and potential to be develop as an antibacterial agent in treating endodontic cases.

Keywords: Enterococcus faecalis, terpenoid, Myrmecodia pendans, antibacterial activity