



Sesquiterpenoids from hexane extract of *Echinophora platyloba* aerial parts

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Background and objectives: *Echinophora platyloba* is used for flavoring foods, cheese and yoghurt. Despite several pharmacological studies on the plant, no attempt has been made to isolate the non-volatile secondary metabolites and assess the antimicrobial effects. So, phytochemical investigation seems to be useful for better use of this plant. **Methods:** *E. platyloba* aerial parts were extracted with hexane by Soxhlet apparatus and fractionated. The subfractions were purified using HPLC and analyzed by ¹HNMR, ¹³CNMR, COSY and Mass spectroscopy. Different extracts with hexane, dichloromethane and acetone solvents through were prepared Soxhlet method. The extracts were individually tested against three gram-Negative (*E. coli*, *S. flexneri*, *A. baumannii*) and two Gram-positive bacteria (*S. aureus*, *E. fecalis*) by microdilution methods. The susceptibility of *E. coli*, *S. flexneri*, *A. baumannii*, *E. fecalis* isolates to gentamycin and *S. aureus* to oxacillin was assessed. **Results:** A branch of fatty acids and triglycerides were obtained along with polyoxygenated sesquiterpenoid, vaginatin. MIC of the hexane extract against bacterium 1 was 512 µg/mL. MIC of ethanol extract against bacterial 1 to 4, were 2048, 512, 2048 and 2048 µg/mL, respectively. MIC of other extract were equal higher than 4096 µg/mL.

Conclusion: Vaginatin was reported for the first time as a sesquiterpenoid from *Echinophora* genus. The ethanol extract was the most and dichlormethane extract the least effective extract. *A. baumannii* was the most susceptible organism to the hexan extract compared to other extracts.

Keywords: *Echinophora platyloba*, HPLC, MIC, microdilution methods, vaginatin