

ABSTRACT

ANTIBACTERIAL ACTIVITY OF EXTRACT OF *ANREDERA CORDIFOLIA* (TEN.) STEENIS LEAVES AGAINST *KLEBSIELLA PNEUMONIAE*, THAT CAUSED NOSOCOMIAL INFECTION VENTILATOR ASSOCIATED PNEUMONIA

Introduction: *Anredera cordifolia* (Ten.) Steenis was used long time ago as a traditional plant (herb) and vegetables in Indonesia. It was called binahong in Indonesia. Some research proved that binahong had many effect in medical studies. It was used to repair kidney function, as antibacteria, antifungi, antiviral, protease inhibitor, xanthine oxidase inhibitor, antidiabetic, antihypertension, vasodilator, anti-obesity, hypolipidemic, antioxidant, gastroprotective, hepatoprotective, cytotoxic, anti-inflammatory, analgesic, and wound healing. Nosocomial infection, for especially Ventilator associated pneumonia had very high incidence rate, and could be burden to country. Ventilator associated pneumonia often caused by *Klebsiella pneumoniae*. This bacteria had many resistencies in antibiotic drugs, such beta lactam groups and carbapenem. To avoid further resistance, traditional medicine was needed. The present study was carried out to determine the *in vitro* antibacterial activity of ethanol extract of *Anredera cordifolia* leaves against *Klebsiella pneumoniae*.

Methods: This study was based on laboratory experimental. The samples were ethanol extract of *Anredera cordifolia* leaves and *Klebsiella pneumoniae*. *A. cordifolia* leaves were from Balai Materia Medika. The ethanol extraction was performed at Balai Materia Medika Malang. *K. pneumoniae* was from Medical Microbiology Laboratory Faculty of Medicine Airlangga University. Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) values were determined by dilution method. The concentrations used in determination for MIC were 7,142 gr/ml, 3,571 gr/ml, 1,785 gr/ml, 0,892 gr/ml, 0,446 gr/ml, 0,223 gr/ml, and 0,112 gr/ml. The MBC value were determined by suspension streaking from Mueller-Hinton broth to nutrient agar plate. The result was analyzed by description method.

Results: The MIC value could not be determined due to turbidity of the extract and the MBC value could not be determined due to the growing of bacteria in all plate.

Conclusion: Antibacterial activity of ethanol extract of *Anredera cordifolia* leaves against *Klebsiella pneumoniae* could not be determined in this study. MIC and MBC of ethanol extract of *Anredera cordifolia* leaves against *Klebsiella pneumoniae* could not be determined.

Keywords: *Anredera cordifolia* -- *Klebsiella pneumoniae* – antibacterial – dilution method