

Abstract

**Bactericidal Effect of Extract of *Vitis Vinifera*
on Methicillin-Resistant *Staphylococcus Aureus* (MRSA) on *Rattus Norvegicus* Skin Wound**

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Introduction : *Methicillin* Resistant *Staphylococcus Aureus* (MRSA) is one of the most common pathogens worldwide that can cause variety of skin and soft tissue infection and can be fatal causing septicemia. Searching for drug and chemical compounds against MRSA is still in demand. Grape is consumed widely around the world, and the seed (*Vitis Vinifera*) is considered as a waste product but in study *in vitro* proven to be a rich source of *polyphenolic* compounds that show antibacterial effect against MRSA. The aim of this study is to investigate the antibacterial effect of grape seed extract on MRSA on white rat (*Rattus Norvegicus*) *Wistar* strain skin wound and compare the antibacterial effect to *mupirocin*'s effect on MRSA.

Methods : Experimental research design using *posttest only control group design*. The wound at the back site of 27 healthy male white rats *Wistar* strain (*Rattus Norvegicus*) inoculated with MRSA. The swab specimens taken 6 hours after inoculation of MRSA, on day 1 and day 3 after the treatment with grape seed extract (*Vitis Vinifera*) and *mupirocin*.for microbiological examination to count the number of colonies.

Result : On all of the wounds in which were applied topical grape seed extract, the number of colonies of MRSA was significantly raised with respect to the control in 1x24 hours ($p < 0,005$) and decreased ($p < 0,0001$) after 3x24 hours, while treated with *mupirocin* significantly decreased within 1x24 hours.

Discussion : The research showed that grape seed extract has antibacterial effect, but it has slower effect compared to *mupirocin*

Keywords : MRSA, antibacterial effect, *Vitis Vinifera*, polyphenolic