

ABSTRACT**The Effect of Garlic (*Allium sativum*) Processing on Antithrombotic Activity in Mice**

Prillye Deasy Octaviantie. Medical Faculty of Airlangga University, Surabaya, Indonesia.

Introduction : Garlic (*Allium sativum*) has a lot of health positive effects that are medically proven, for example antibacterial, antiviral, antifungal, and also antioxidant. Besides that, garlic also has positive cardiovascular effects, for example hypotensive effect, antiatherosclerotic, and antithrombotic. One of the most commonly used antithrombotics is aspirin. Aspirin gets the antithrombotic effect by inhibiting the formation of Thromboxane A₂. Besides drugs, there are some plants in nature that have been known with antithrombotic effect, such as garlic (*Allium sativum*). A lot of researches have proved that allicin, garlic's main component, allicin, can inhibit cyclooxygenase enzyme and hence inhibits the formation of Thromboxane A₂, the same mechanism like aspirin, and also by ADP pathway. This research aims to find the effectivity of antithrombotic activity in different cooking processes of garlic compared with aspirin.

Methods : This research is designed as a laboratory experimental with 8 (eight) different groups, consist of positive control (aspirin), negative control (CMC 1%), high dose of raw garlic, low dose of raw garlic, high dose of boiled garlic, low dose of boiled garlic, high dose of fried garlic, and low dose of fried garlic. Each group consists of 5 mice, and the experiment time is one month. On the last day of the experiment, the tails of the mice will be cut, and the bleeding time will be examined.

Results : The positive control group (aspirin) has the longest bleeding time, and the high dose of raw garlic ranks second. The low dose of raw garlic ranks third and has the same bleeding time with the negative control group (CMC 1%). Meanwhile, the boiled and cooked garlic group, both high and low dose, shows longer bleeding time than the negative control group (CMC 1%). This result corresponds with the thermolabile nature of allicin. Although there is an elongation of bleeding time in the high dose of raw garlic group, the antithrombotic effect is still insignificant ($p < 0.05$) compared with aspirin's.

Key words : *raw garlic, boiled garlic, cooked garlic, aspirin, bleeding time, allicin, antithrombotic effect*