

ABSTRACT

"*Nigella sativa* Effect to Lead Deposition, Expression of CD4, CD8, IL2, and Histopathological Lesions in Lung of Mouse Balb/c that Exposed of Pb from Motor Fumes"

Lilis Sulistyorini

Pb exposure in the environment are still happening from year to year. Treatment for Pb exposure in the environment is very high cost. *Nigella sativa* phenomenon that is beneficial to health, which has the effect of *Nigella sativa* anti inflammatory and a powerful analgesic. Therefore, the aim of the research was to examine the effects of *Nigella sativa* on the distribution of Pb in the lung, the expression of CD4, CD8, IL-2 and histopathological lesions.

This research was true experimental laboratory mice (*Mus musculus*) Balb/c, with post test only control group design and sample random sampling. The samples were divided into 2 groups of Pb (+) and Pb (-), vehicle smoke exposure conducted for 14 days. From each group were divided into groups without *Nigella sativa* or control (C) and the 3 treatment groups (T). From each treatment group performed the provision of *Nigella sativa* successive levels of 2.5, 5, and 10 mg /ml with a different variation of the same exposure (PA) and after exposure finished (PB) during 14 days.

Body weight of mice: 15-40 grams, and statistically no different. There was significant difference in CD4 expression ($p = 0.002$) due to the interaction of Pb exposure and concentration of *Nigella sativa*, but there was no difference in CD8 expression ($F = 0.034$ and $p = 0.992$), and the IL2 expression differed in variation of the concentration of *Nigella sativa* ($F = 8.969$ and $p = 0.000$), no difference in the expression of IL2 on *Nigella sativa* timing variation ($F = 5.542$ and $p = 0.022$), there was no difference between the control group IL2 expression with the provision of *Nigella sativa*. There were differences with the histopathological lesions Pb exposure group (+) and *Nigella sativa* administered concurrently or after exposure to Pb concentration at all concentrations of *Nigella sativa*.

It is concluded that *Nigella sativa* has anti inflammatory effects in mice exposed to Pb from motor fumes. It is suggested research on the effects of *Nigella sativa* on other organs due to exposure to Pb needs to be done to study the effects of *Nigella sativa* for the treatment and prevention of Pb poisoning. Research on the effects of *Nigella sativa* due to exposure to CO and other gases can be performed by using this study procedures.

Key Word: *Nigella sativa*, Pb, CD4, CD8, IL2, histopathological lesions, motor fumes.