ABSTRACT

NIKEN ROSTIKA. The effect of Blackseed (Nigella sativa) Oil Extracts on Stomach and Small Intestine Histology of Mice (Mus musculus). Under supervision of SRI ESTUNINGSIH and VETNIZAH JUNIANTITO.

Habatussauda or black cumin seed (Nigella sativa) is a popular herbal medicine worldwide. The aim of this research was to observe histology changes on stomach and small intestine of mice treated with Nigella sativa oil extracts. Seventy two 4-week-old mice, consisting of thirty six male and female, were divided each into four groups. Group 1 (control) were treated with 0.1 ml of aquadest, group 2 with 0.1 ml of N. sativa oil extract, group 3 with 0.2 ml of N. sativa oil extract, and group 4 with 0.3 ml of combined N. sativa oil extract and honey. All treatment were done orally everyday for two months period. Afterwards, mice were euthanized by atlanto-occipitale dislocation for organs sampling. Stomach and small intestine were fixed in 10% Buffered Neutral Formaline (BNF), embedded in paraffin, then stained with haematoxylin and eosin (HE) and periodic-acid schiff (PAS). The results showed that N. sativa treatment significantly increased (P<0.05) the number of parietal and chief cells, and reduced the number of mucous cells and infiltrating inflammatory cells in stomach; while, increased height of villi, increased number of crypts, reduced number of inflammatory cells, and reduced number of goblet cells were observed in small intestine, as compared with those in control. Additionally, there were no significant differences (P>0.05) in all parameters between male and female mice. These data may suggest cell protection and inflammatory cells suppression activities of N. sativa treatment in gastrointestinal tracts.

Keywords: Mice, Nigella sativa, stomach, small intestine histology.