ABSTRACT

Background: *The exposure of cigarette smoke contains a lot of harmful material such as carbon monoxide, nicotin, and tar, that are free radical or Reactive Oxygen Species (ROS). Reactivity of ROS leads to cell damage, especially granulosa cells, through lipid peroxidation. Granulosa cells are an estrogen-producing, that can affect the thickness of endometrial growth. Vitamin E (Tocoferol) as an antioxidant, has an important role in inhibiting lipid peroxidation by breaking antioxidant chain-reaction.*

Methode: *This study was post-test only control group design with 27 mices (Mus musculus). The white mices (Mus musculus) were devided into three groups (n=9). Group (1) control (non cigarette smoke, non vitamin E), (2) Cigarette (exposed by cigarette smoke without vitamin E), (3) Vitamin E (exposed by cigarette smoke with vitamin E supplementation). The mices were sacrified during the oestrous phase. The uterus were fixed in 10% formaline buffer solution for histopathological examination with Hematoxylin Eosin stained.*

Result: *On Oneway Anova analysis with significance level 5%, overall resulted a significant difference between the experimental gropus (p=0,042). Furthermore, the Post Hoc LSD test was done to get the result of significant difference between the (1) Control group and (2) Cigarette group (p= 0,027). And between the (2) Cigarette group and (3) Vitamin E group (0,029).*

Conclusion: *Vitamin E increasing the thickness of endometrium of white mice (Mus muscullus) which exposed by cigarette smoke.*

Keyword: *Cigarette smoke, Vitamin E, Thickness of endometrium.*