

ABSTRACT

Cigarette smoke contains harmful substances that can cause oxidative stress inhibiting the proliferation of endometrial epithelial cells. It can be prevented by antioxidants, one of which is vitamin C. The purpose of this study was to examine the effect of vitamin C supplementation on endometrial thickness of female mice exposed to cigarette smoke.

*The method of this study was experimental laboratory with post-test only control group design, using 27 mice (*Mus musculus*) divided randomly into 3 groups, each group consists of 9 mice. The control group (K) was not exposed to cigarette smoke and was given vitamin C solvent (aquadest) as a placebo. The treatment group 1 (P1) was exposed to cigarette smoke and was given a placebo. The treatment group 2 (P2) was exposed to cigarette smoke and was supplemented with vitamin C at a dose of 0.13 mg/gr bodyweight/day. Both treatment groups were exposed to one cigarette smoke per day for 20 days and started at the estrus phase. At the end of the experiment, the uterus was taken through surgery and then made into histology preparat..*

The results showed significant differences ($p = 0.001$) between endometrial thickness K ($357.15 \pm 67.40 \mu\text{m}$) and P1 ($231.01 \pm 25.66 \mu\text{m}$), and also significant difference ($p = 0.000$) between P1 and P2 ($335.89 \pm 7.00 \mu\text{m}$), whereas there was no significant difference ($p = 0.729$) between K and P2.

The conclusion of this study is vitamin C supplementation can increase the thickness of endometrium female mice exposed to cigarette smoke.

Keywords: vitamin C supplementation, endometrial thickness, cigarette smoke