

ABSTRACT

**PENGARUH PEMBERIAN IBUPROFEN PER ORAL TERHADAP
TERADINYA OVULASI, JUMLAH OOSIT DAN KORPUS LUTEUM
MENCIT (*Mus musculus*)**

**EFFECT OF ORAL IBUPROFEN ON OVULATION, OOCYTE NUMBER
AND CORPORA LUTEA IN MICE (*Mus musculus*)**

Introduction: Ibuprofen is one of the three most used non-steroidal anti-inflammatory drugs (NSAID) by women of childbearing age, aside from naproxen and aspirin, to relieve pain because of its ease of access without the need of prescription. The usage of NSAID within the correct dosage has an analgetic effect to relieve pain, however, in several people NSAID may cause side effects such as the inhibition of ovulation and reversible infertility.

Method: To understand the effect of oral ibuprofen on ovulation, a histological approach is done by using female BALB/c mice (*Mus musculus*) as test subjects to examine the number of oocytes and corpus luteum. Vaginal swab was done to determine the phase of estrous cycle before grouping the mice in three different groups, each consisted of 11 mice. K is a control group which was given 0.1 ml/g of placebo, P1 was given 52 mg/kg of body weight of oral ibuprofen and P2 was given 104 mg/kg of body weight of oral ibuprofen. The treatment lasted for 15 days. After the treatment, 5 IU dosage of PMSG and HCG respectively was injected in the intraperitoneum to induce superovulation, then mated with sterile male mice. The fallopian tubes were taken to be examined under inverted microscope and ovaries were taken to be made histological using haematoxylin-eosin (HE) staining.

Result: Statistical analysis showed that high dose of ibuprofen showed significant difference ($p = 0.028$) on the number of corpus luteum in comparison to the group treated with low dose of ibuprofen. Higher dose of ibuprofen affected the number of mice ovulated compared to the lower dose ($p = 0.04$), but there is no significance regarding ibuprofen treatment on the number of oocytes in all groups ($p = 0.699$).

Conclusion: Ibuprofen does not affect the number of oocytes in the treated mice. However, higher dose of ibuprofen has lower the ovulation rate and the number of corpus luteum in mice treated for 15 days in comparison to the lower dose.

Keywords: *ibuprofen, non-steroidal anti-inflammatory drugs, ovulation, corpus luteum, oocyte, mice*