

THE EFFECTS OF THE MANGOSTEEN EXTRACT (*Garcinia mangostana* Linn) TO THE AMOUNT OF LEYDIG CELLS OF CIGARETTE SMOKE EXPOSED MICE (*Mus musculus*)

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ABSTRACT

The purpose of this research is to prove the effects of the mangosteen extract to the amount of *Leydig* cells of cigarette smoke exposed mice. 25 mice aged 8 to 12 weeks was randomly divided to 5 groups. Group of negative control (K-) was given CMC Na 1% 0.5 mL/head, positive control (K+) was exposed with smoke and CMC Na 1 % 0.5 mL/head, Treatment 1 (P1) was exposed with smoke and had been given mangosteen extract 6,045 mg/head, Treatment 2 (P2) was exposed with smoke and had been given mangosteen extract 12.09 mg/head, Treatment 3 (P3) was exposed with smoke and had been given mangosteen extract 24,18 mg/head. Exposure cigarette smoke had been given one piece of cigarette per group each day, and treatments had been given one hour after the exposure of cigarette smoke. All Treatment and exposure cigarette smoke was given about 45 days. Necropsy was done after final day of treatment, then histopathological slides of the testis were processed and stained under light microscope. Observed parameter was *Leydig* cell count. The data were analyzed by *Analysis of Variance* (ANOVA) method based on *Completely Randomized Design*, and further analyzed by Duncan's multiple range. In the result, the effect of mangosteen extract has been showed significant difference ($p < 0,05$) to increase *Leydig* cell count on mice's testis with cigarette smoke exposed with mean \pm SD as follows: K (-) 32.6 ± 5.18 ; K (+) 16.56 ± 5.37 ; P1 32.68 ± 6.85 ; P2 43.48 ± 8.47 ; P3 37.72 ± 6.80 . Stated giving 12,09 mg/head dose of mangosteen extract (P2) shows it can increase the amount of the highest *Leydig* cells compared with K(+) and P1 groups.

Keywords : Cigarette smoke, mangosteen extract, *Leydig* cell, mice.