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The comparison effect between Bangun-Bangun leaves (Coleus Amboinicus) ethanol extracts and carrots (Daucus Carota) juice as analgetic on mice (Mus Musculus) induced by acetic acid

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The development of herbal medicine in Indonesia is growing rapidly. The government support many universities for doing some researches about herbal. The aim of this study to compare effect between Bangun-bangun leaves ethanol extract (EDBB) and Carrots juice (CJ) as analgetic on mice that induced by acetic acid. The experimental animals used were 24 mice divided into 4 groups, ie group-I (negative control/placebo given aquadest 0.2 cc/20 g BW mice); group-II (positive control, paracetamol (PCT) with dose of 2 mg/20 g BW mice); group-III (EDBB) ethanol extract with dose of 144 mg/20 g BW mice); and group-IV (CJ) with dose of 5 mg/20 g BW mice). All of these treatments were administered orally 10 minutes before the induction of acetic acid 1% (0.3 cc/20 g BW mice) intraperitoneally. Observations were made by looking at the writhing response (observed for 1 hour) and the amount of infiltration of leukocyte cells at the injection site. Permanent cervical fracture execution was performed at the end of the study (4 hours after induction of acetic acid) to see the migration of leukocyte to the peritoneal tissue and examined histopathologically by the light microscope Olympus 400x magnification field. The results were analyzed using SPSS and ANOVA then post hoc Tukey analysis. In the previous study, Pane

et al. (2018) get an effective dose of reducing the pain of 144 mg/20 gBW mice EDBB. Carvacrol contained in the Bangun-bangun (Coleus amboinicus) leaves was suggested had efficacy as an analgesic agent by inhibition of peripheral mediators that could be related to its strong antioxidant effects observed in vitro suppressed hyper nociceptive and inflammation pathways. In addition, Carvacrol has anti-inflammatory effects by reducing the production of inflammatory mediators, such as IL-1 β and prostanoïd, possibly via the induction of IL-10 release. The effect of anti-inflammatory cytokines contribute to controlling the central and peripheral effects of pain stimulation may contribute to decreased stimulation of nociceptive pathways, facilitating pain control. Meanwhile, Carrot (Daucus carota) is also known to work as an external oxidant which is believed to be efficacious as an analgesic with chemistry stimulation on mice. It suggested that the carrot contained beta carotene as an analgesic to inhibit free radical. The present study proved that the decrease of excitatory pain in all treatment groups (I, II, III and IV) was significantly different, whereas $p=0.000$. The comparison of mean values \pm SEM decreased excitatory pain group I-II (255.00 \pm 22.22; 88,33 \pm 14,58, $p=0.000$. Group I-III (255.00 \pm 22.22; 50,83

± 3.09), $p=0,000$ and I-IV groups (255.00 ± 22.22 ; 52.17 ± 7.59), $p=0,000$. On histopathology examination, all treatment between groups were significantly different ($p=0.006$). The comparison of mean value \pm SEM decrease number of leukocyte group I-II (31.73 ± 5.22 ; 14.70 ± 3.71 , $p=0.025$. Group I-III (31.73 ± 5.22 ; 11.77 ± 2.77 , $p=0.008$) and I-IV group (31.73 ± 5.22 ; 14.67 ± 3.27 , $p=0,025$). This study concluded that group-III (EDBB) has the best efficacy as analgesic compared to the group-II (positive control/paracetamol) and group-I (placebo) in decreasing the writhing response and migration of leukocyte to the inflamed tissue.

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