Neuro-protection and neuro-therapy effects of acalypha indica linn. water extract ex vivo on musculus gastrocnemius frog

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Abstrak

The studies of neuro-protection and neuro-therapy effects of Acalypha indica Linn. water extract ex vivo on Musculus gastrocnemius frog have already done at three Departments in Faculty of Medicine, University of Indonesia. The experimental studies were done on 2 groups of frog for neuro-protection and neuro-therapy effects. Each group of frog was divided into 7 subgroups of application, 4 samples each. There were 5 subgroups of doses: 5; 10; 15; 20; 25 mg and 2 subgroups as control. Pancuronium bromide 0.2%, 4 mg, was used for a positive control as muscle relaxant. Neuroprotection study was done as follow: ringer - extract - pancuronium bromide, and neuro-therapy study was ringer - pancuronium bromide - extract, respectively. The parameters measured in these studies were the electrical activities such as amount and duration (second) of re-polarization; depolarization, resting potential, and the height of spike after electrical stimulation at 5 mV. Neuro-protection effect of extract was determined by the ability of muscle to show the electrical response after incubating with pancuronium bromide for 10 minutes, and after incubating with extract for 10 minutes for neuro-therapy effect. In the dose of 15 mg and 20 mg/mL of A. indica Linn. extract showed better activities than the dose of 25 mg of extract, both as neuro-protection and neuro-therapy effects, but statistically its have not a significant difference. This study should be followed by an in vivo experiment on frog and it would be done in pharmacokinetic and pharmacodynamic studies on other animal models.