

ABSTRAK

Introduction: Stroke is a sudden neurological deficit caused by focal brain injury to the central nervous system by vascular causes. Stroke is in the 2nd position as a non-communicable disease that causes death. Oxidative stress play important role in the pathology of neuronal cell death after ischemic stroke

Objectives : To determine the effect of green tea with its active compound EGCG towards decreasing number of neuronal necroptosis

Methods: In vivo-study perform on male *Rattus norvegicus* MCAO model divided into 5 groups, control groups, EGCG 10 mg/kgBW/day, EGCG 20 mg/kgBW/day, EGCG 30 mg/kgBW/day, and green tea extract “Meditea” 30 mg/kgBW/day for 7 days treatment. MCAO model made by modification method use Bulldog clamp. After 7 days of treatment, all *Rattus norvegicus* were sacrificed. After that, we examined use H.E stain to look at number of neuronal necroptosis in each group.

Results: We found that there are significant difference between control group and three later group (EGCG 20 mg/kgBW/day, EGCG 30 mg/kgBW/day, and Green Tea Extract ($p < 0,05$). We found that there are no significant difference between control group and EGCG 10 mg/kgBW/day ($p > 0,05$). There is no significant different in EGCG group compared to Green tea extract group ($p > 0,05$). There is significant correlation between number of neuron cell necroptosis and both EGCG and Green trea extract ($p < 0,05$). Correlation is negative which mean, both EGCG and Green trea extract will decrease number of neuron cell necroptosis. EGCG will decrease neuron cell necroptosis start with dose : 20 mg/kgBW/day . EGCG 30mg/kgBW/day produce best result compared to other dose.

Conclusion: *Camellia sinensis* (green tea) with its active compound EGCG significantly decrease number of neuronal necroptosis in MCAO models

Keywords: *Green tea, Camellia synensis, EGCG, Necroptosis, Neuron*