ANGIOGENIC EFFECT OF *Glycine max* L. (SOYBEAN) POWDER ON THE CHORIOALLANTOIC MEMBRANE OF 10-DAY OLD *Anas luzonica* (DUCK) EMBRYOS

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KYEONGHOE HEO
OSEZIMEN UHOMOIBHI

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ABSTRACT

Angiogenesis is often simply referred to as the process of new blood vessel growth. Soybean has two principal isoflavones, catechins and genistein, which act in large part through its ability to scavenge oxidants involved in carcinogenesis. This experiment study of determining the angiogenic effects of the *Glycine max* (soybean) powder on the Chorioallantoic membrane of 10-day old *Anas luzonica* (Duck) eggs employed a Randomized Complete Block Design (RCBD). The experiment was performed using three treatment groups with one control group: T0 – negative control group (distilled water), T1 – 100 ppm *G. max* powder, T2 – 200 ppm *G. max* powder, T3 – 300 ppm *G. max* powder. After 48hours of experiment on the duck embryo, the chorioallantoic membrane of the embryo was ready to be observed for the angiogenic activity. The number of the blood vessels of each embryo were counted and compared according to the concentration of soybean powder solution, using a dissecting microscope. The concentrations of 200 ppm and 300 ppm exhibited significant effect on the number of blood vessel formation on the CAM, and these concentrations did not affect the well-being of the tested embryo, but only reduced the number of blood vessel formation. Thus, it can be concluded that 200 ppm and 300 ppm of *G. max* extract have anti-angiogenic effect on the CAM of duck embryo, without harming them. On the other hand, the concentration of 100 ppm had no significant effect on the angiogenesis suppression on the CAM of 10-day old duck embryo. The phytochemicals that affect the angiogenesis could be the isoflavones, such as genistein and daidzein, also the vitamins like vitamin C, vitamin D, and vitamin E. These phytochemicals are all present in Soybean that may be responsible for the effect of *G. max* extract on the anti-angiogenic effect.

Key words: diadzein, genistein, anti-tumor, isoflavones, anti-cancer, vascularization, vitamin C.