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Effects of Papua Ant Nests (*Myrmecodia pendens*) on Level of sFlt-1, PIGF, MDA and NO in Preeclampsia-induced HUVEC Cell Line

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Abstract : Preeclampsia remains major cause in both maternal and perinatal mortality and morbidity. Preeclampsia causes endothelial dysfunction due to imbalance of proangiogenic and antiangiogenic indicated by increased soluble fms-like tyrosine kinase-1 (sFlt-1) and decreased placental growth factor (PlGF), also followed by oxidative stress indicated by decreased malondialdehyde (MDA) and increased nitric oxide (NO). Antioxidant is believed in preventing such mechanism. Herbal antioxidant is widely used in Indonesia, one of which is ant nests from Papua. Ant nests used is formed in water fraction and known containing antioxidant compounds such as flavonoid, tannin, terpenoid and alkaloid. This study aims to analyze therapeutic effects of ant nests on level of sFlt-1, PIGF, MDA and NO in preeclampsia-induced HUVEC cell line. Measurement of level of sFlt-1 and PlGF was performed with ELISA. Measurement of level of MDA was performed with thiobarbituric acid-reactive substances (TBARS), and level of NO was performed with NWLSS™ Nitric Oxide Assay. Data was analyzed statistically with ANOVA and Duncan test. Level of sFlt-1 and MDA in preeclampsia-induced HUVEC ATCC CRL 1730 cell line were decreased whereas level of PlGF and NO in preeclampsia-induced HUVEC ATCC CRL 1730 cell line were increased, after exposure of ant nest water fraction on concentration 31,25 ug/ml. **Conclusion:** Ant nest water fraction has therapeutic effects on preeclampsia. Further studies regarding development of ant nests in prevention of preeclampsia are encouraged.
Keywords: ant nests, sFlt-1, PIGF, MDA, NO.

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