EFFECT OF METHYLDOPA ON VEGF LEVELS
AS PROANGIOGENIC FACTOR IN SEVERE PREECLAMPSIA

(Study at Obstetric and Gynecology Department, Haji Teaching Hospital Surabaya)

ABSTRACT

Background: Methyldopa is the main antihypertensive drug that widely used in pregnant women with hypertensive disorder. It reduces blood pressure in preeclampsia by affecting α2-adrenoreceptors in central nervous system. However, it also decreases production of proangiogenic factors that involved in pathophysiology of hypertension in preeclampsia. Vascular Endothelial Growth Factor (VEGF) is one of proangiogenic and mitogenic factor that important for vasodilatation, which is produced by placenta and affected after treatment with methyldopa.

Objective: The aim of this study is to analyze effect of methyldopa on maternal VEGF circulating level as proangiogenic factor in severe preeclampsia patients who hospitalized at Obstetric and Gynecology Department Haji Teaching Hospital.

Method: This study was performed by prospective observational method on August to October 2016. The data was assessed at before treatment and at 48 hours after methyldopa therapy. The study was approved by the ethical committee Haji Teaching Hospital.

Result: There were 19 patients with severe preeclampsia who met inclusion criteria. The results showed that VEGF level before methyldopa 250 mg therapy were 1178.37±1208.47 (281.97-3567.28) pg/mL and at 48 hours after methyldopa therapy were 1055.17±1172.78 (129.79–4272.66) pg/mL, respectively. VEGF levels in severe preeclampsia patients were 1194.29 ±1254.68 (175.68–3432.01) pg/mL at before treatment and 510.66 ±379.61 (214.34–1236.16) pg/mL after treatment with methyldopa 500 mg therapy.

Conclusion: Methyldopa could decrease VEGF level on severe preeclampsia patients, with a decrease of 10% at the dose of 250 mg and 57% at the dose of 500 mg.

Keywords: Methyldopa, Severe Preeclampsia, VEGF, Proangiogenic Factors