

**ABSTRACT****ANALYSIS OF METHYLDOPA THERAPY  
ON DECREASING sFlt-1 AND sEng ANTIANGIOGENIC FACTORS  
IN PATIENT WITH SEVERE PREECLAMPSIA  
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**Background** – Methyldopa is the first-line drugs for hypertension in pregnancy, it is believed to lower blood pressure by direct mechanism on alpha-2 adrenoreceptors in central nervous system. However, they could also act by decreasing production of antiangiogenic factor (sFlt-1 and sEng) involved in pathophysiology of hypertension in preeclampsia.

**Objective** – The aim of this study was to analyze the decrease on level of antiangiogenic factors sFlt-1 and sEng after administration of methyldopa therapy in maternal plasma with severe preeclampsia.

**Method** – This prospective longitudinal study was approved by the Ethics Committee of Haji teaching Hospital Surabaya. Data was collected from Juni to October 2017. Plasma level of antiangiogenic factors were measured before and 8-24 hours (before labor) after antihypertensive therapy with methyldopa. The collected data were analyzed using paired-t test to compare the parametric data of two groups.

**Result** – 11 patients were included in this study. Majority of their age was 30-39 years old. Data were collected in three dosage groups. Generally, the results showed decrease in both sflt-1 and sEng levels after methyldopa therapy. Plasma levels of sFlt-1 was decreased from  $9.995 \pm 3.232$  (6.589-15.347) ng/ml to  $8.383 \pm 2.463$  (5.813-14.778) ng/ml and decrease in plasma sEng from  $10.217 \pm 10.857$  (0.384-34.521) ng/ml to  $7.557 \pm 11.009$  (0.699-36.917) ng/ml. At dose 500 mg, sFlt-1 and sEng were decreased by 31% ( $p > 0.05$ ) and 82% ( $p > 0.05$ ); respectively, while at dose 750 mg by 22% ( $p > 0.05$ ) and 23% ( $p > 0.05$ ), respectively. At dose 1500 mg, there were increased of both sFlt-1 and sEng by 10% ( $p < 0.05$ ) and 49% ( $p > 0.05$ ), respectively.

**Conclusion** – there was a tendency to decrease sFlt-1 and sEng profile after methyldopa therapy in severe preeclampsia supported by a decrease on MAP values.

**Keywords:** Methyldopa, Severe Preeclampsia, soluble fms-like tyrosine kinase (sFlt-1), soluble endoglin (sEng)