# ABSTRAK

## PERBEDAAN KADAR *PLACENTAL GROWTH FACTOR* (PlGF) PADA MENCIT BUNTING NORMAL, MENCIT BUNTING MODEL PREKLAMPSIA TANPA DAN DENGAN PEMBERIAN *L-ARGININE*

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Di negara berkembang preeklamsia diperkirakan menyebabkan kematian maternal sebesar 15-20 % dan menimbulkan morbiditas akut dan jangka panjang pada ibu. Pada wanita yang akan mengalami preeklamsia, didapatkan penurunan ekspresi PlGF yang menggangu proliferasi trofoblast dan menimbulkan gangguan remodelling arteri spiralis yang menyebabkan gangguan implantasi plasenta. *L-Arginine* telah mempunyai peran pada jalur *L-Arginine-nitric oxide* dalam preeklamsia, dimana pada preeklamsia telah diketahui adanya penurunan bioavailabilitas NO. Tujuan dari penelitian ini adalah menganalisis pengaruh *L-arginine* terhadap kadar PlGF serum mencit model preeklampsia.

Desain penelitian ini merupakan *true experimental* dengan rancang bangun *randomized post test only, control group.* Sampel penelitian berupa mencit *mus musculus* galur Swiss umur 3 bulan,sehat, bunting, berat badan 20-30 gram, berjumlah 27 yang dibagi menjadi tiga kelompok yaitu mencit bunting normal, model preeklamsia tanpa *L-arginine* dan model preeklamsia dengan *L-arginine*. Data dianalisis menggunakan *SPSS statistics 20*.

Pada penelitian ini didapatkan rerata kadar PlGF serum kelompok mecit model preeklampsia dengan pemberian *L-Arginine* sebesar 962,431±158,211 pg/ml. Kadar ini lebih tinggi daripada kelompok mencit bunting normal yaitu 947,339±208,267 pg/ml dan kelompok mencit model preeklampsia tanpa pemberian *L-Arginine* yaitu 861,985±161,960 pg/ml. Secara statistik tidak ada perbedaan kadar PlGF antara kelompok mencit bunting normal, mencit model preeklamsia dengan, dan tanpa pemberian *L-Arginine* (nilai p >0,05).

**Kata kunci :** preeklampsia, L-arginine, PlGF.

## *ABSTRACT*

# THE DIFFERENCES OF PLACENTAL GROWTH FACTOR (PlGF) BETWEEN NORMAL PREGNANT MICE, PREECLAMPSIA MICE MODEL WITHOUT AND WITH L-ARGININE INTERVENTION

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In developing countries preeclampsia is estimated to cause maternal deaths by 15-20% and cause acute and long-term maternal morbidity. In women who will experience preeclampsia, there is a decreased expression of PlGF which interferes with trophoblast proliferation and causes disturbances in spiraling arterial remodeling that results in impaired placental implantation. L-Arginine has a role in the L-Arginine-nitric oxide pathway in preeclampsia, where in preeclampsia it has been known to decrease bioavailability of NO. The purpose of this study was to analyze the effect of L-arginine on serum PlGF levels in mice with preeclampsia models.

The design of this study was a true experimental design with randomized post test only, control group. The sample of the study was Swiss mice mus musculus strain aged 3 months, healthy, pregnant, body weight 20-30 grams, totaling 27 divided into three groups namely normal pregnant mice, preeclampsia model without L-arginine and preeclampsia model with L-arginine. Data were analyzed using SPSS statistics 20. In this study, the mean serum of PlGF levels were obtained by the preeclampsia model group with administration of 962.431 ± 158.211 pg / ml L-Arginine. This level was higher than the normal pregnant *Mus Musculus* group which was 947,339 ± 208,267 pg / ml and the *Mus Musculus* group preeclampsia model without L-Arginine administration was 861,985 ± 161,960 pg / ml. Statistically there were no differences in PlGF levels between the group of normal pregnant mice, preeclampsia mice with, and without L-Arginine (p value> 0.05).


**Keywords**: preeclampsia, L-arginine, PlGF.