PERBEDAAN KADAR *PAPP-A* DAN KADAR *IGF-1*
ANTARA PREEKLAMSIA AWITAN DINI DAN
PREEKLAMSIA AWITAN LAMBAT

TESIS

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RESEARCH ARTICLE

PAPP-A Levels and IGF-1 Levels in Early-Onset Preeclampsia and Late-Onset Preeclampsia

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Abstract

Introduction: The pathophysiology of preeclampsy is not yet fully understood, but failure of tropoblast invasion and placentation, which is influenced by factors such as pregnancy-associated plasma protein A (PAPP-A) and insulin-like growth factor 1 (IGF-1), is thought to play a role.

Aims: This study aimed to explore the difference in PAPP-A and IGF-1 levels between Early Onset Preeclampsia (PEAD) and Late Onset Preeclampsia (PEAL) assuming that the role of PAPP-A and IGF-1 is more significant in the pathogenesis of PEAD than PEAL.

Methods: This is an analytical observational study with a cross-partition comparative study design. Clinical data were obtained at Dr. M. Djamil Padang Hospital, while PAPP-A and IGF-1 levels were measured at the Biomedical Laboratory of the Faculty of Medicine, Andalas University. Samples are tested according to reagent procedures and analyzed by experts.

Results: Average PAPP-A levels were 2.45+0.35 pg/mL in the early onset preeclampsy group and 2.85+0.50 pg/mL in the late onset preeclampsy group. These two levels differed statistically significantly (p=0.006). That means that low levels of PAPP-A are associated with and play a role in the pathogenesis of early onset preeclampsy. Average IGF-1 levels were 4.66+0.91 pg/mL in the early onset preeclampsy group and 5.39+0.74 pg/mL in the late-onset preeclampsy group. These two levels differed statistically significantly (p=0.010). That means that low levels of IGF-1 are associated with and play a role in the pathogenesis of early onset preeclampsy. PAPP-A levels were significantly positively correlated with IGF-1 levels (p=0.000).

Conclusion: PAPP-A levels are lower in PEAD than PEAL, as are IGF-1 levels. These findings confirm the role of PAPP-A and IGF-1 in preeclampsia. Both of these hormones have potential as indicators and markers for the prediction and management of preeclampsy in early and late onset periods.

Keywords: Physiology, pregnancy, pathogenesis, signs