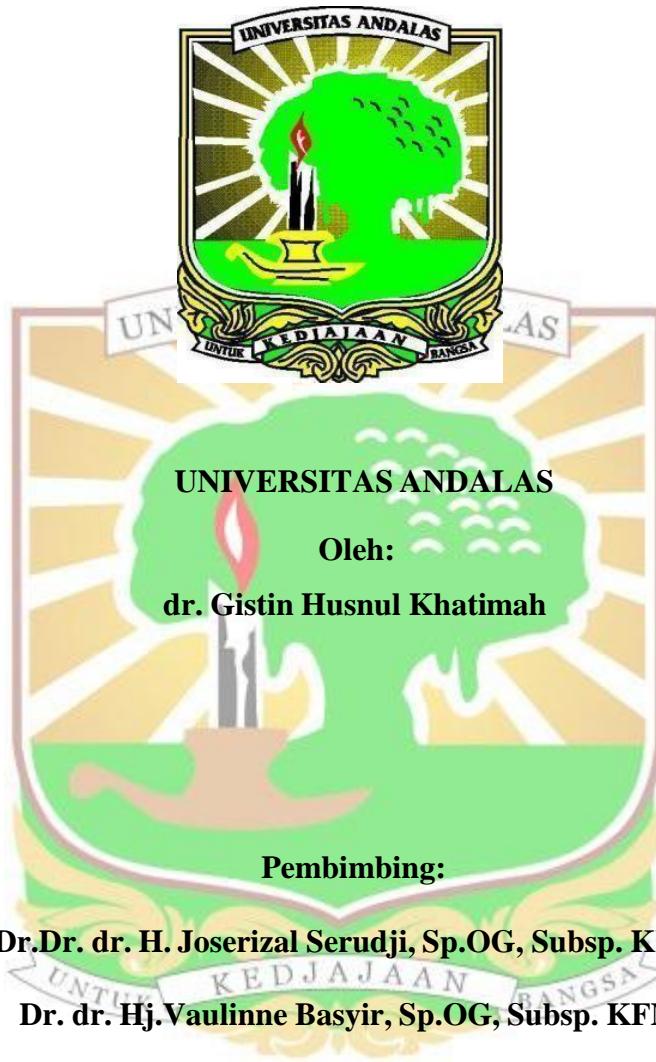


**PERBEDAAN KADAR PROTEASE ACTIVATED RECEPTOR-1 DAN
TROMBIN PADA PREEKLAMSIA DAN KEHAMILAN NORMAL**

TESIS



**PROGRAM PENDIDIKAN SPESIALIS OBSTETRI DAN GINEKOLOGI
FAKULTAS KEDOKTERAN UNIVERSITAS ANDALAS
RSUP DR. M. DJAMIL PADANG
2021**

ABSTRACT

Differences In Protease Activated Receptor-1 And Thrombine Levels In Preeclampsia And Normal Pregnancy

Gistin Husnul Khatimah¹, Joserizal Serudji², Vaulinne Basyir³

¹Obstetrics and Gynecology Resident, Medical Faculty of Andalas University, Padang, West Sumatera, Indonesia

²Fetomaternal Division of Obstetrics and Gynecology Department, Medical Faculty of Andalas University, Padang, West Sumatera, Indonesia

³Fetomaternal Division of Obstetrics and Gynecology Department, Medical Faculty of Andalas University, Padang, West Sumatera, Indonesia

ntroduction: Preeclampsia is a condition caused by alterations in endothelial function during pregnancy. Changes in endothelial function result in an increase in coagulation and microvascular fibrin accumulation, which results in impaired placental perfusion. Thrombin, which converts fibrin to fibrinogen, as well as platelet activity, the fibrinolytic system, and anticoagulants, are all procoagulant circumstances in preeclampsia. Thrombin contributes to the pathogenesis of preeclampsia by increasing the expression of sFlt-1 thereby providing an antiangiogenic response. Protease Activated Receptor-1 (PAR-1) is a mediator of thrombin for coagulation and inflammation in preeclampsia. Inhibition of Protease Activated Receptor-1 expression in trophoblasts can enhance placental angiogenesis and vascular remodeling. Recently, only few studies have assessed the levels of Protease Activated Receptor -7 and thrombin in preeclampsia.

Objective: To determine the difference in levels of Protease Activated Receptor-1 and thrombin in preeclampsia and normal pregnancy

Methods: This study is observational with a cross-sectional comparative study design. Sampling was conducted from March 2020 to March 2021. A total of 66 patients were investigated, with 33 samples of preeclampsia and 33 samples of normal pregnancy. The independent sample T-test was used for statistical analysis.

Results: The mean levels of Protease Activated Receptor-1 in the preeclampsia group were higher at 28.56 ± 7.68 ng/mL while normal pregnancy was 21.67 ± 6.92 ng/mL. The results of statistical tests showed that there was a significant difference in levels of Protease Activated Receptor-1 between the preeclampsia and normal pregnancy groups ($p<0.05$). The mean thrombin level in the preeclampsia group was higher at 72.23 ± 7.99 ng/mL, while in normal pregnancy it was 63.70 ± 8.92 ng/mL. The difference in thrombin levels between the preeclampsia and normal pregnancy groups was statistically significant ($p<0.05$).

Conclusion: Preeclampsia was associated with greater levels of Protease Activated Receptor-1 and thrombin than normal pregnancy. There was a significant difference in the mean levels of Protease Activated Receptor-1 and thrombin between preeclampsia and normal pregnancy.

Keywords: Thrombin, Protease Activated Receptor-1(PAR-1), Preeclampsia

ABSTRAK

Perbedaan Kadar *Protease Activated Receptor-1* Dan Trombin Pada Preeklamsia Dan Kehamilan Normal

Gistin Husnul Khatimah¹, Joserizal Serudji², Vaulinne Basyir³

¹PPDS Obstetri dan Ginekologi, Fakultas Kedokteran Universitas Andalas, Padang, Sumatera Barat, Indonesia

²Subbagian Fetomaternal, Bagian Obstetri dan Ginekologi, Fakultas Kedokteran Universitas Andalas, Padang, Sumatera Barat, Indonesia

³Subbagian Fetomaternal, Bagian Obstetri dan Ginekologi, Fakultas Kedokteran Universitas Andalas, Padang, Sumatera Barat, Indonesia

endahuluan: Preeklamsia merupakan sindroma kehamilan akibat perubahan fungsi endotel. Perubahan fungsi endotel yang terjadi menimbulkan peningkatankoagulasi, deposisi fibrin mikrovaskular yang mengakibatkan terganggunya perfusi plasenta. Kondisi prokoagulan pada preeklamsia salah satunya disebabkan oleh trombin sehingga fibrin dirubah menjadi fibrinogen, dan diaktivasinya trombosit, sistem fibrinolitik dan antikoagulan. Trombin berkontribusi pada patogenesis preeklamsia dengan meningkatkan ekspresi sFlt-1 sehingga memberikan respon antiangiogenesis. *Protease Activated Receptor-1* (PAR-1) merupakan mediator dari trombin untuk proses koagulasi dan inflamasi pada preeklamsia. Penghambatan ekspresi *Protease Activated Receptor-1* di trofoblas dapat meningkatkan angiogenesis plasenta dan remodeling vaskular. Sampai saat ini belum banyak penelitian yang menilai kadar *Protease Activated Receptor-1* dan trombin pada preeklamsia.

Tujuan : Mengetahui perbedaan kadar *Protease Activated Receptor-1* dan trombin pada preeklamsia dan kehamilan normal.

Metode : Penelitian ini bersifat observasional dengan desain penelitian *cross sectional comparative study*. Pengumpulan sampel dilakukan dari bulan Maret 2020 sampai Maret 2021. Sampel yang diteliti berjumlah 66 orang, yang terdiri dari 33 sampel preeklamsia dan 33 sampel kehamilan normal. Analisis statistik dilakukan dengan menggunakan *independent sample T-test*.

Hasil : Rerata kadar *Protease Activated Receptor-1* kelompok preeklamsia lebih tinggi yaitu $28,56 \pm 7,68$ ng/mL sedangkan kehamilan normal $21,67 \pm 6,92$ ng/mL. Hasil uji statistik menunjukkan terdapat perbedaan yang signifikan kadar *Protease Activated Receptor-1* antara kelompok preeklamsia dan kehamilan normal ($p<0,05$). Rerata kadar trombin kelompok preeklamsia lebih tinggi yaitu $72,23 \pm 7,99$ ng/mL sedangkan kehamilan normal $63,70 \pm 8,92$ ng/mL. Hasil uji statistik menunjukkan perbedaan yang signifikan kadar trombin antara kelompok preeklamsia dan kehamilan normal ($p<0,05$).

Kesimpulan : Rerata kadar *Protease Activated Receptor-1* dan trombin pada preeklamsia lebih tinggi dibandingkan kehamilan normal. Terdapat perbedaanrerata kadar *Protease Activated Receptor-1* dan trombin yang signifikan antara preeklamsia dan kehamilan normal.

Keywords : Trombin, *Protease Activated Receptor-1*(PAR-1), Preeklamsia

