

# Kadar fragmen protrombin f1 2 dalam kaitannya dengan kebocoran plasma dan trombositopenia pada infeksi dengue = Prothrombin fragment f1 2 level in association with plasma leakage and thrombocytopenia in dengue infected patients

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## Abstrak

Manifestasi klinis demam berdarah Dengue (DBD) adalah kebocoran plasma dan trombositopenia. Salah satu teori penyebab kedua hal tersebut adalah kadar trombin yang meningkat akibat aktivasi koagulasi. Kadar trombin dapat diwakili oleh kadar F1.2. Tujuan penelitian ini adalah untuk mengetahui hubungan antara kadar F1.2 dengan kebocoran plasma dan trombositopenia pada infeksi Dengue. Desain penelitian ini adalah potong lintang, menggunakan plasma EDTA dari pasien terinfeksi virus Dengue. Subyek penelitian adalah 10 subyek dengan kebocoran plasma dan 10 subyek tanpa kebocoran plasma pada infeksi Dengue, 6 sampel berpasangan untuk perbandingan fase kritis dan fase konvalesen, 26 sampel untuk uji korelasi antara kadar F1.2 dengan jumlah trombosit.

Hasil penelitian menunjukkan kadar F1.2 pada pasien terinfeksi virus Dengue dengan kebocoran plasma (rerata  $\pm$  2SD)  $147,4 \pm 105,82$  pg/mL lebih tinggi secara bermakna dibanding tanpa kebocoran plasma  $51,3 \pm 39,92$  pg/mL. Kadar F1.2 pada fase kritis dengan median  $186,3$  ( $108,6-223,2$ ) pg/mL lebih tinggi secara bermakna dibanding fase konvalesen  $46,5$  ( $27,4-51,9$ ) pg/mL. Terdapat korelasi negatif yang bermakna dengan kekuatan sedang antara kadar F1.2 dengan jumlah trombosit, nilai  $r = -0,609$ . Dari hasil penelitian disimpulkan bahwa terdapat peningkatan aktivasi koagulasi yang ditunjukkan dengan peningkatan kadar F1.2 pada fase kritis, berkaitan dengan kebocoran plasma dan trombositopenia pada pasien terinfeksi virus Dengue.

.....Clinical manifestations of Dengue haemorrhagic fever are plasma leakage and thrombocytopenia. Both manifestations are thought to be caused by an increased thrombin level due to activation of coagulation. The aim of this study was to look for any association between F1.2 level and plasma leakage and also between F1.2 level and thrombocytopenia in Dengue infected patients. The study design was cross sectional. This study used EDTA plasma from patients infected with Dengue virus. The thrombin level was represented by the prothrombin fragment 1.2 (F1.2) level. Twenty subjects were enrolled in this study, consisted of 10 subjects with plasma leakage and 10 without plasma leakage, 6 pair samples in critical phase and convalescent phase, 26 samples for correlation test between F1.2 level and platelet count. In this study, it was found that the F1.2 level in patients with plasma leakage (mean  $\pm$  2 SD)  $147.4 \pm 105.82$  pg/mL was significantly higher compared to patients without plasma leakage  $51.3 \pm 39.92$  pg/mL, and the F1.2 level in critical phase had a median of  $186.3$  ( $108.6-223.2$ ) pg/mL which was significantly higher compared to convalescent phase  $46.5$  ( $27.4-51.9$ ) pg/mL. Also there was a significant negative correlation with moderate degree of relationship between F1.2 level and the thrombocyte count,  $r = -0.609$ .

The results of the study demonstrated that there was increased coagulation activation at critical phase in patients infected with Dengue virus, as shown by F1.2 as indicator, associated with plasma leakage and thrombocytopenia.