



INTISARI

LATAR BELAKANG: Cedera kepala merupakan suatu kerusakan pada kepala yang tidak bersifat kongenital maupun degeneratif tetapi disebabkan oleh benturan fisik dari luar. Untuk menilai tingkat keparahan cedera kepala dapat digunakan pemeriksaan *Glasgow Coma Scale (GCS)*, *Computed Tomography (CT) scan* dan D-Dimer. D-Dimer merupakan suatu produk degradasi *cross linked* fibrin. Kadar D-Dimer meningkat seiring tingkat keparahan cedera kepala. Pemeriksaan *CT scan* relatif mahal dan dibutuhkan mobilisasi pasien sehingga dapat memperburuk kondisi pasien. Tujuan penelitian ini adalah untuk menguji korelasi antara kadar D-dimer dan skor *Glasgow Coma Scale* pada penderita cedera kepala.

METODE: Penelitian ini merupakan studi observasional analitik dengan rancang potong lintang. Subyek baru yang masuk di Instalasi Rawat Darurat (IRD) RSUP Dr Sardjito Yogyakarta, yang didiagnosis cedera kepala yang memenuhi kriteria inklusi dan eksklusi dipilih secara berurutan. Skoring *Glasgow Coma Scale* dilakukan di IRD dan pemeriksaan kadar D-dimer menggunakan metode imunofiltrasi dengan alat Nycocard. Uji Korelasi antar kadar D-dimer dan skor *Glasgow Coma Scale* menggunakan uji korelasi Pearson apabila data terdistribusi normal. Apabila sebaran data tidak normal data diuji menggunakan korelasi Spearman. Korelasi bermakna apabila $p < 0,05$.

HASIL: Didapatkan korelasi negatif kuat antara kadar D-dimer dan skor *Glasgow Coma Scale* ($r = -0,622$; $p < 0,001$). *Prothrombin Time* mempunyai korelasi dengan kadar D-dimer ($r = 0,527$; $p < 0,001$). Kadar hemoglobin mempunyai hubungan yang bermakna dengan kadar D-dimer ($r = -0,517$; $p = 0,001$). Kadar hemoglobin dan PT berhubungan dengan *Glasgow Coma scale* ($r = 0,419$ vs $-0,591$; $p < 0,001$). Tetapi persentase netrofil mempunyai korelasi dengan *Glasgow Coma scale* meskipun lemah ($r = -0,336$; $p = 0,034$)

KESIMPULAN: Terdapat korelasi negatif yang kuat antara kadar produk degradasi *cross-linked fibrin* (D-dimer) dan skor *Glasgow Coma Scale* pada penderita cedera kepala.

Kata kunci : *D-Dimer, Glasgow Coma Scale, Cedera Kepala, CT scan, Korelasi*



ABSTRACT

BACKGROUND: Traumatic Brain Injury (TBI) is damage to the brain caused by an external force traumatically injures. To observe its severity the Glasgow Coma Scale (GCS) and Computed Tomography (CT) scan are used. Also, D-dimer as an end product of fibrinolytic activity is proposed as an predictor of TBI outcome. Increases D-dimer value were correlated with severity. CT-scan is to expensive dan need patients mobility that can cause worse. Aim study is to correlate between D-dimer and GCS in patient with traumatic brain injury.

METHODS: The cross sectional observational analytic design will be carried out in the study. The TBI patients with 24 hours onset who admit to Emergency Room Dr. Sardjito Hospital Yogyakarta will be included with inclusion and exlusion criteria consecutively selection. Glasgow coma scale will be measured and plasma D-Dimer will be examined using Nycocard with immunofiltration method. Correlation between plasma D-Dimer and Glasgow Coma Scale will be tested using Pearson Correlation if the population distribution is normal or Spearman correlation if not normally distributed.

RESULT: There was strong negative correlation between D-dimer and Glasgow Coma Scale ($r=-0,622$; $p<0,001$) and Prothrombin Time had correlation with D-dimer value ($r=0,527$; $p<0,001$). Haemoglobin has correlation with D-dimer ($r=-0,517$; $p=0,001$). Haemoglobin and PT had correlation with Glasgow Coma Scale ($r=0,419$ vs $-0,591$; $p<0,001$) and netrofil had poor correlation with Glasgow Coma Scale ($r=-0,336$; $p=0,034$).

CONCLUSION: There was strong negative correlation between degradation product of *cross-linked fibrin* (D-dimer) and Glasgow Coma Scale in patient with traumatic brain injury.

Key Words : *D-Dimer, Glasgow Coma Scale, Traumatic Brain Injury, CT scan, correlation*