

Nilai Hemokonsentrasi sebagai Penanda Kebocoran Plasma pada Infeksi Virus Dengue Anak

Emma Hidayanti,¹ Dzulfikar D. Lukmanul Hakim,² Ponpon S. Idjradinata²

¹Rumah Sakit Anugrah Lestari Cimahi

²Departemen Ilmu Kesehatan Anak Fakultas Kedokteran Universitas Padjadjaran
Rumah Sakit Dr. Hasan Sadikin Bandung

Abstrak

Infeksi virus dengue sampai saat ini masih merupakan masalah kesehatan yang sangat serius di daerah tropis sedunia. Insidensi infeksi virus dengue yang dilaporkan WHO meningkat setiap tahunnya. Tanda utama demam berdarah dengue (DBD) yang membedakannya dari demam dengue (DD) yaitu peningkatan permeabilitas vaskular mendadak, terjadinya kebocoran plasma. Tanda kebocoran plasma di antaranya hemokonsentrasi, efusi pleura, asites, dan hipoalbuminemia. Didapatkannya efusi pleura dan asites mempunyai sensitivitas yang baik dalam mendiagnosis DBD. Penelitian ini bertujuan untuk mengetahui validitas nilai hemokonsentrasi dalam mendeteksi kebocoran plasma pada infeksi virus dengue anak. Penelitian dilakukan selama bulan Oktober–Desember 2009. Metode penelitian observasional analitik dengan rancangan *cross-sectional*. Subjek penelitian anak usia ≤ 14 tahun tersangka infeksi virus dengue berdasarkan kriteria *World Health Organization* 1997 yang datang ke Unit Gawat Darurat dan Poliklinik Anak RS Dr. Hasan Sadikin Bandung. Pengambilan sampel darah dilakukan untuk pemeriksaan hematokrit saat datang dan fase konvalesens, serta serologi IgM/IgG antidengue kemudian dilakukan pemeriksaan USG torakoabdominal. Analisis statistik dilakukan dengan uji Mann-Whitney. Nilai titik potong hemokonsentrasi ditentukan dengan kurva *receiver operating characteristic*. Dari 42 subjek penelitian, didapatkan 21 anak dengan efusi pleura dan asites positif serta 21 anak dengan efusi pleura dan asites negatif. Nilai hemokonsentrasi pada kelompok efusi pleura dan asites positif dengan negatif berbeda bermakna ($p < 0,001$). Titik potong nilai hemokonsentrasi $> 8\%$ memberikan sensitivitas 90,5%; spesifisitas 71,4%; dan akurasi 80,9%. Simpulan, nilai hemokonsentrasi $> 8\%$ dapat digunakan sebagai penanda kebocoran plasma pada infeksi virus dengue anak. [MKB. 2011;43(2S):8S–12].

Kata kunci: Asites, efusi pleura hemokonsentrasi, infeksi virus dengue

Hemoconcentration Value as a Marker of Plasma Leakage in Children with Dengue Virus Infection

Abstract

Dengue virus infection is still a very serious health problem in tropical regions all over the world. The incidence that annually reported to the WHO was increased from time to time. The hallmark that differentiate dengue hemorrhagic fever (DHF) from dengue fever (DF) is the sudden increase of the vascular permeability that might cause plasma leakage. Plasma leakage is indicated by among others hemoconcentration, pleural effusion, ascites, and hypoalbuminemia. Finding pleural effusion and ascites have a good sensitivity in diagnosing DHF. The aim of this study was to find out the validity of hemoconcentration in detecting plasma leakage in children with dengue virus infection. The study was conducted between October to December 2009 and a cross-sectional study was applied. The subjects were children ≤ 14 years suspected dengue virus infection according World Health Organization (WHO) 1997 criteria who admitted to the Emergency Room and Outpatient Clinic Child Health Department of Dr. Hasan Sadikin Hospital Bandung. Venous blood samples were obtain for microhematocrit assessment on admission and convalescence phase, serologic IgM/IgG anti dengue, and thoracoabdominal USG performed at the same time. Statistical analysis by the Mann-Whitney test. Cut-off point of hemoconcentration value was determined by receiver operating characteristic curve. A total of 42 subjects were enrolled, 21 children with positive pleural effusion and ascites and 21 children with negative pleural effusion and ascites. Hemoconcentration value in positive and negative pleural effusion and ascites groups were significantly different ($p < 0.001$). A cut-off point of hemoconcentration $> 8\%$ yielded sensitivity of 90.5%, specificity 71.4%, and accuracy 80.9%. In conclusion, hemoconcentration value $> 8\%$ might be used to determine plasma leakage in children with dengue virus infection. [MKB. 2011;43(2S):8S–12].

Key words: Ascites, dengue virus infection, hemoconcentration, pleural effusion

Korespondensi: Emma Hidayanti, dr., Sp.A, Rumah Sakit Anugrah Lestari Cimahi, jalan Cibaligo 76 Cimindi Cimahi Selatan, *mobile* 08122424833, *e-mail* auntymot@yahoo.co.id