

Field evaluation of Bio-rad NS 1 ag strip as diagnostic kit for primary and secondary dengue infection in Jakarta =Evaluasi Bio-rad NS 1 ag strip sebagai alat diagnostik infeksi dengue primer dan sekunder

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Abstrak

[ABSTRAK

Infeksi dengue telah menjadi salah satu masalah kesehatan yang serius di Indonesia. Non Struktural-1 (NS-1) antigen dikenal sebagai indikator diagnostik awal infeksi dengue. Tujuan dari penelitian ini adalah mengetahui sensitivitas dan spesifisitas Biorad NS-1 Ag Strip sebagai pendeteksi infeksi dengue, baik primer maupun sekunder. Penelitian ini menggunakan desain penelitian kohort dengan konsektif sampling. Dalam penelitian ini, kami menggunakan Reverse Transcription-Polymerase Chain Reaction (RT-PCR), atau isolasi virus dalam C6/36 cell line atau peningkatan titer antibodi sebagai standar baku emas. Kami juga menggunakan SPSS 17.0 dengan 2x2 table dan area under the curve (AUC) of the Receiver Operating Curve untuk menganalisis data. Populasi data dalam penelitian ini adalah 102 pasien dan 68,3% dari mereka dikonfirmasi sebagai pasien infeksi dengue. Hasil positif ini diklasifikasikan kembali menjadi infeksi primer dan sekunder, yaitu 27 (39,7%) dan 35 (51,5%) orang berturut-turut. Sensitivitas dan spesifisitas Bio-Rad NS1 Ag Strip infeksi dengue primer adalah 96.30% dan 100%. Namun, sensitivitas dan spesifisitas Bio-Rad NS1 Ag Strip untuk infeksi dengue sekunder adalah 85.71% dan 100 %. Bio-Rad NS1 Ag Strip memiliki sensitivitas dan spesifisitas yang tinggi untuk menentukan infeksi primer dan sekunder. Bio-Rad NS1 Ag Strip dianjurkan untuk digunakan sebagai deteksi dini infeksi dengue, baik primer maupun sekunder.

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ABSTRACT

Dengue Infection has been one of the serious health problems in Indonesia. Non Structural-1 (NS-1) antigen was known to be the early diagnostic indicator of dengue infection. The purpose of this research is identifying the sensitivity and specificity of a diagnostic kit, called Biorad NS-1 Ag Rapid Test, which use NS-1 Antigen as the marker to detect primary and secondary dengue infection. Cohort with consecutive sampling was the most suitable research design to be applied in this study. We used Reverse Transcription-Polymerase Chain Reaction (RT-PCR), or virus isolation in C6/36 cell line or the increment of antibody titer as the gold standard in this study. We also used SPSS 17.0 with tables 2x2 and area under the curve (AUC) of the Receiver Operating Curve to analyze the data. Population data in this research were 102 patients and 68.3% of them confirmed as dengue infection patient. Furthermore, the positive results are classified into primary and secondary infection, which are 27 (39.7%) and 35 (51.5%) people, respectively. The sensitivity and specificity of Bio-Rad NS1 Ag Strip in primary dengue infection were 96.30% and 100%, respectively. However, the sensitivity and specificity of Bio-Rad NS1 Ag Strip for secondary dengue infection were 85.71% and 100 %, respectively. Bio-Rad NS1 Ag Strip has high sensitivity and specificity to determine both primary and secondary infection. As the result, Bio-Rad NS1 Ag Strip is recommended to be used for early detection of primary and secondary dengue infection.

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