CHARACTERIZATION OF DENGUE VIRUS SEROTYPE 4 INFECTION IN JAKARTA, INDONESIA

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Abstract. Dengue hemorrhagic fever has become a worldwide health issue. Heterologous infection by different serotypes may lead to severe forms of dengue infection and even death. In a cohort study in Jakarta from 2009 to 2010 with inclusion criteria of adults with fever of less than 48 hours, 72% were confirmed dengue infection from a total of suspected 190 dengue patients. Using RT-PCR, 16 patients were infected with DENV-4 with or without co-infection with other serotype(s). Dengue fever (DF) patients (73%) were infected with DENV-4 alone, while mixed infections were present in more severe clinical manifestations of DHF grade I and II. The nucleotide sequences of envelope (E) protein gene of 3 isolates of DENV-4 showed that they belonged to genotype II. There were 50 nucleotide substitutions, but only 3 amino acid changes were found at positions 130, 233 and 455, present in E protein isolated from DHF grade II patient.

Keywords: dengue virus serotype 4, genotype II, serotype mixed infection, Indonesia

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