SENSITIVITY AND SPECIFICITY OF ATYPICAL LYMPHOCYTE FOR DIAGNOSIS OF DENGUE VIRUS INFECTION AT MATARAM HOSPITAL, WEST NUSA TENGGARA

Larantika Hidayati

Masters Program in Immunology, Postgraduate School, Universitas Airlangga, Surabaya

ABSTRACT

Background: Diagnosis of dengue infection (DI) is done by anamnesis and physical examination, confirmed by laboratory examination. Currently, laboratory tests to determine DI infection are isolation and identification of virus, antigen detection, and serological test. In human, dengue virus stimulates body to produce immunoglobulin M (IgM). The stimulation pathway is carried out through stimulation of lymphocytes B. Transitional forms between lymphocytes and plasma cells are seen in the blood of patients with viral infections. These cells are variously known as atypical lymphocyte. This study aimed to examine the sensitivity and specificity of atypical lymphocyte for diagnosis of dengue virus infection.

Subjects and Method: This was a cross-sectional study carried out at Mataram hospital, West Nusa Tenggara. A total of 26 blood samples was selected for this study, consisting of: 13 samples of DI positive and 13 samples of DI negative. The study variables of interest were sensitivity and specificity of atypical lymphocyte. The data were analyzed descriptively.

Results: Out of 13 samples with DI positive, 10 samples were atypical lymphocyte positive. Therefore, the sensitivity= 76.92%. Out of 13 samples with DI negative, 11 samples were atypical lymphocyte negative. Therefore, the specificity= 84.61%.

Conclusion: The sensitivity and specificity of atypical lymphocyte are 76.92% and 84.61%, respectively, indicating atypical lymphocyte has relatively weak sensitivity and specificity for diagnoses of dengue virus infection.

Keywords: atypical lymphocyte, sensitivity, specificity, dengue infection

Correspondence:

Larantika Hidayati. Masters Program in Immunology, Universitas Airlangga. Jl. Airlangga 4-6 Surabaya, East Java, Indonesia. Email: larantika19@gmail.com. Mobile: 08-7765038001