ABSTRACT

Background: Leprosy is caused by Mycobacterium leprae infection and remains a major public health problem in many areas of the world. Although PGL-1 antigen has been reported as auxiliary diagnostic tool, currently there is no serological assay routinely used in leprosy diagnosis. LID-1 antigen has showed potential to improve diagnostic capacity at local health centers and aid development of strategies for the eventual control and elimination of lepros from endemic areas.

Purpose: To determine LID-1 antibody level in leprosy patients and household contacts at Dermato-venereology outpatient clinic, dr. Soetomo teaching hospital, Surabaya.

Method: Sera from 35 leprosy patients (8 PB type and 27 MB type) and 22 household contacts were evaluated using Enzyme Linked Immunosorbent Assay (ELISA) with LID-1 antigen. Clinical form and bacterial index (BI) were recorded and analyzed to correlate with the LID-1 antibody levels.

Results: There were 3 from 5 PB leprosy patients (60%) and 25 from 27 MB leprosy patients (93%) showed anti LID-1 seropositivity with mean value for PB leprosy patients 0,136±0,023 OD unit and for MB leprosy patients 0,710±0,524 OD unit. Household contacts revealed 10 from 25 people (40%) showed anti LID-1 seropositivity with mean value 0,065±0,025 OD unit.

Conclusions: Detection of antibody against LID-1 in leprosy patients showed LID-1 antigen as a potential serodiagnosis of leprosy. It is well established that the earlier a leprosy patient is identified, the better their response to treatment. Serological tests that do not require significant labor can detect asymptomatic M. leprae infection may contribute to the control and eradication of leprosy.

Keywords: antibody, leprosy, LID-1