

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 leprosy 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 $0,136 \pm 0,023$ OD unit and for MB leprosy patients $0,710 \pm 0,524$ OD unit. Household contacts revealed 10 from 25 people (40%) showed anti LID-1 seropositivity with mean value $0,065 \pm 0,025$ 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