

Research article

Comparison of interleukin 4 levels in leprosy and non-leprosy patients at Dr. Muhammad Hoesen Palembang General Hospital

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Key words: Leprosy, Interleukin-4, T-helper, Hospital.

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Abstract

Leprosy is a chronic granulomatous infectious disease caused by the mycobacterium leprae which injure the skin and peripheral nervous system. The spectrum and clinical type of leprosy are based on cellular immunity responses namely T-helper 1 (Th1) and T-helper 2 (Th2). This study aims to compare serum IL-4 levels between lepers and non-lepers in Dr. Mohammad Hoesin Palembang General Hospital. This research is an observational analytic study with a case-control design conducted at Dr. Mohammad Hoesin Palembang General Hospital. IL-4 examination is carried out using the ELISA method at the Molecular Biology Laboratory, Faculty of Medicine, Sriwijaya University in January to February 2019. The case and control groups were 40 lepers and 40 medical personnel and paramedics working in Dr. Mohammad Hoesin Palembang General Hospital and family patients. The study included IL-4 levels, respondent status, clinical type of leprosy, and characteristics of respondents. In the leprosy group, the average age is 35 years, and most of them are male (27). In the non-leprosy group, the average age is 36.5 years, and most of them are female (24). There are more MB patients (36) than PB type (4) while type BL (19), type LL (10) type BB (7) and type BT and BB (2). The median value of IL-4 levels in leprosy patients is 209.63 pg/ml range from 103-243 pg/ml while the median value of IL-4 levels in non-leprosy patients is 63.38 pg/ml range from 32-125 pg/ml. Mann-Whitney analysis results show a p-value of 0.000. There is a significant difference between Interleukin 4 levels in lepers and non-lepers where IL-4 levels are higher in lepers than non-lepers.
