



INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

THE RELATIONSHIP BETWEEN VOLUNTARY MUSCULAR EXAMINATION TEST AND NERVE TISSUE DAMAGE BIOMARKER P-75NTR IN PATIENT WITH MULTIBACILLARY AND PAUCIBACILLARY LEPROSY

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Leprosy is a chronic infectious disease caused by *Mycobacterium leprae* and had predilection on peripheral nerves especially Schwann cells. Leprosy medications are only for bacterial eradication, but not to prevent or recover peripheral nerve damage along with its components. However, early nerve damage detection is necessary. We examined P-75NTR as early peripheral nerve damage indicator in leprosy.

We examined ambulatory patients of Dr. Saiful Anwar Hospital in Malang, Indonesia. One of the standard method to check for functional impairment is by performing a motor examination or Voluntary Muscle Test (VMT). ELISA was used to measure the study variables. Receiver Operating Characteristic curve was used to determine cut off value.

Leprosy patients in Saiful Anwar hospitals who entered the inclusion criteria were grouped into MB and PB, and VMT test were performed. Serum P-75NTR levels were then measured in both groups using ELISA. Then the data is analyzed. Results showed that 33 leprosy patients were included in the inclusion criteria, 21 people including MB and 12 PB. There was a strong correlation between P-75NTR and leprosy type, and VMT test results on hand and foot respectively with $p = 0,031$; $p = 0,000$; and $p = 0,000$. The PB leprosy group had a higher p75NTR than the MB group. It is suspected that Schwann cell apoptosis can be induced by Serum P-75NTR.

Leprosy is a chronic infectious disease causes many degrees of disability due to invasion to peripheral nerve particularly Schwann cells. Early detection of peripheral nerve damage is needed. Examination of P-75NTR may be used to identify early peripheral nerve damage in leprosy.

Keywords: leprosy, Voluntary Muscle Test (VMT), ELISA, and P-75NTR.

