Evaluation of Monkey Neurovirulence Test (MNVT) of Polio Vaccine Seed on Long-tailed Macaque (*Macaca fascicularis*) with Histopathological Approach

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**ABSTRACT**

The purpose of this study was to determine the results of evaluation of MNVT (monkey neurovirulence test) based on histopathology features of ischiadicus nerve. Thirty long-tailed macaque (*Macaca fascicularis*) which have two years old were used in this test. A total of thirty long-tailed macaques were divided into three groups, Reference group consisted of 14 individuals were injected with WHO standard vaccine, The vaccine seed group consist of 14 individuals injected with vaccine seed from Indonesian Manufacturer, and control group as many as two head of untreated macaque. Observation of the severity of paralysis was done for 17-19 days. The observation was performed for paralysis symptoms in the lower extremities, which were expressed in the form of a score. The collections of ischiadicus nerve samples were taken purposefully from monkeys showing paralysis symptoms. Subsequently, HE staining (hematoxylin eosin) tissue slides were made and histopathological observation was done for the *wallerian* degeneration and inflammatory cell infiltration parameters. The results showed that of the WHO Reference vaccine and the vaccine seed that intraneurally injected on the spinal cord show a varying level of paralysis. 5 of the 14 (35.71%) monkeys did not experience paralysis symptoms for the Reference group as well as the vaccine seed group, Nine of 14 animal (64.29%) had symptomatic paralysis. Statistically, the incidence of paralysis in the Reference group and the vaccine seed group showed no significant differences. The result of observation for the *Wallerian* degeneration and inflammatory cell infiltration in the nerve tissue, showed that Reference and vaccine seed group, didn’t show a significant difference (p> 0.05).

**Keywords**: MNVT, *Wallerian* degeneration, poliomyelitis