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Safety and immunogenicity of ETHIORAB rabies vaccine

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Worldwide, rabies in dogs is the source of 99% of human infections. This makes dogs known victims of the rabies virus that makes them potential both as carriers and transmitters to human being. Pre and post-exposure prophylaxis are means to either protect it before or after the exposure to the virus. Vero cell culture based rabies vaccine "ETHIORAB" manufactured by Ethiopian Health and Nutrition Research Institute was subjected for safety and immunogenicity studies. The obtained vaccine was tested on mice and satisfactory safety result was observed. Twelve experimental dogs from local common breed and the same aged were duly conditioned during a quarantine period, and then vaccinated via the subcutaneous route with 1 ml of 1 IU/ml of ETHIORAB rabies vaccine. Four milliliters of blood from each dog were drawn on days 0 (pre-vaccination), 7, 15, 21, 30, 60 and 90. The serum samples were coded and kept frozen at 20°C throughout the study period. To evaluate the titer of the rabies neutralizing antibody, sera were analyzed by Fluorescent Antibody Virus Neutralization (FAVN) test. Serum neutralizing antibody titers to rabies virus was determined at days 7, 15, 21, 30, 60 and 90. Mean titers were equal to 1.59, 1.73, 2.19, 3.58, 3.35 and 3.17 IU/ml respectively. All dogs showed rabies neutralizing antibody titer higher than the 0.5 IU/ml mandated WHO threshold. This study indicated ETHIORAB rabies vaccine manufactured in Ethiopia was found to be safe and immunogenic.

Keywords: Dogs; ETHIORAB; titer; immunogenicity; safety.

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