Safety and immunogenicity of Ethiorab Rabies vaccine


Ethiopian Health and Nutrition Research Institute, Addis Ababa, Ethiopia

Pokrov Plant of Biologics, Russian Federation

Federal Centre for Animal Health, Russian Federation

Haramaya University

Worldwide rabies in dogs is the source of 99% of human infections. This makes dogs potential reservoir and transmitters to human being. Pre and post-exposure prophylaxis are means of protection against the rabies virus. The main objective of this experiment was to determine the safety and immunogenicity of Vero cell culture based rabies vaccine “ETHIORAB” manufactured by Ethiopian Health and Nutrition Research Institute, Vaccine and Diagnostic Production Directorate. The obtained vaccine was tested on mice and satisfactory safety results were observed. Random Clinical Trial (RCT) design was used for this experiment. Twelve experimental dogs from local breed were duly conditioned during a quarantine period and assigned to two groups randomly. Group I (cases) were vaccinated subcutaneously with 1 ml of ETHIORAB. Dogs in group II served as non-vaccinated controls. To evaluate the titer of the rabies virus neutralizing antibodies (VNA), sera were analyzed by Fluorescent Antibody Virus Neutralization (FAVN) test. Serum neutralizing antibody geometric mean titers (GMT) were equal to 1.55, 1.73, 2.02, 3.45, 3.57 and 3.17 IU/ml respectively. All dogs showed VNA titers higher than the 0.5 IU/ml mandated WHO recommended threshold. This study indicated ETHIORAB rabies vaccine manufactured in Ethiopia is safe and immunogenic.