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Safety and immunogenicity of Ethiorab Rabies vaccine

Birhanu Hurisaa, Belete Tegbarua, Dagmar Nolkesd, Abebe Mengeshaa, Gezahegn Kebedea, Sisay Kergaa, Amdemicael Adhanoma, Alemayehu Godanaa, Dereje Nigussiea, Gashaw Gebrewolda, Denis Bankovskiyb, Artem Metlinc, Amha Kebedea, Kelbessa Urgaa
aEthiopian Health and Nutrition Research Institute, Addis Abeba, Ethiopia
bPokrov Plant of Biologics, Russian Federation
cFederal Centre for Animal Health, Russian Federation
dHaramaya 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 geomtric mean titers (GMT) to rabies virus was determined at days 7, 15, 21, 30, 60 and 90. Geomtric mean titers 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.

bhurrish@yahoo.com

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