PRELIMINARY TRIALS WITH THE USE OF A STREPTOMYCIN DEPENDENT MUTANT IN A LIVE VACCINE AGAINST HAEMORRHAGIC SEPTICAEMIA (H.S.)

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Haemorrhagic Septicaemia (Pasteurella multocida serotype 6:B infection), causes heavy losses in cattle and buffaloes, particularly in the dry zone of Sri Lanka. The disease is controlled by vaccination. The immunity conferred by the vaccines presently used is of short duration.

Wei and Carter (1978) developed a streptomycin dependent mutant of a type B Pasteurella which protected mice against experimental infection with the wild type.

A large number of streptomycin dependent mutants of Sri Lanka strains of *P. multocida* were produced by us using N-Methyl-N'-Nitro-N-Nitrosoguanadine, according to the techniques of Chengappa and Carter (1979). A stable encapsulated, smooth mutant was selected for use in a live vaccine against H.S. in cattle and buffaloes.

In two field trials, 68 susceptible cattle and buffaloes, 4-10 months of age were vaccinated with this vaccine. Immunity was assessed by a passive protection test in mice, using cattle and buffalo sera before and two or three weeks after vaccination.

A single dose of vaccine conferred detectable immunity in 66.6% to 83.3% cattle, and 100% of buffalo calves. There was no significant difference in the response whether the vaccine was administered by the sub-cutaneous or intra-muscular route. No adverse reactions were observed in any of the vaccinated calves. These results suggest the need for further trials to determine the duration of immunity with a view to developing a streptomycin dependent vaccine against HS.

Part of this work was supported by the SIDA/FAO Dairy Development Project TF/SRL/30 (SWE)

References :

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