

list of Contents

	Page
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	3
2.1. History	3
2.1.1. In the world	3
2.1.2. In Egypt	5
2.2. Classification of PPRV	7
2.3. Physico-chemical characters	7
2.4. PPRV Stability	11
2.5. PPRV Replication	14
2.6. Growth of PPR in Cell Cultures	15
2.7. Animal Susceptibility	16
2.8. Method of Transmission	17
2.9. pathogenesis of PPRV	17
2.10. Clinical Symptoms	18
2.11. Postmortem Findings	19
2.12. Diagnosis of PPRV	20
2.13. Control of PPR	23
2.14. Levamisole as an immunostimulant	27
3. MATERIAL and METHODS	31
3.1. Materials	31
3.1.1. Animals	31
3.1.2. Samples	31
3.1.3. Virus Vaccines	31
3.1.4. Cell Cultures	32
3.1.5. Cell Culture Media and Solutions	32
3.1.6. Buffers and Reagents Used for Indirect ELISA	34
3.2. Methods	38
3.2.1. Collection of blood samples: (OIE, 2004)	38
3.2.2. The administration of PPRV-vaccine and levamisole hydrochloride through a variability of trials	38
3.2.3. Monitoring of the Humoral Immune Response	40
3.2.4. Statistical Analysis	43

<i>4. RESULTS</i>	44
4.1. Effect of simultaneous inoculation of sheep with both PPRV-vaccine and Levamisole	44
4.2. Effect of Levamisole inoculation 3days before as well as after PPRV-vaccine administrated in sheep:	49
4.3. Effect of inoculation of PPRV-vaccine mixed with Levamisole in sheep	54
4.4. Effect of simultaneous inoculation of goats with both PPRV-vaccine and Levamisole	63
4.5. Effect of Levamisole inoculation 3 days before as well as after PPRV-vaccine inoculation in goats	68
4.6. Effects of inoculation of PPRV-vaccine mixed Levamisole in goats	73
<i>5. DISCUSSION</i>	88
<i>6. SUMMARY</i>	93
<i>7. REFERENCES</i>	95
<i>ARABIC SUMMARY</i>	

list of abbreviations

ANOVA	:	Analysis of Variance
CPE	:	Cytopathic Effect
ELISA	:	Enzyme Linked Immunosorbent Assay
GMT	:	Geometric Mean Titre
FAO	:	Food Agricultural Organization
OIE	:	Office international des Epizootics
PPR	:	Peste des Petits Ruminants
PPRV	:	Peste des Petits Ruminants Virus
RP	:	Rinderpest
RPV	:	Rinderpest Virus
TCID ₅₀	:	Tissue culture Infective Dose Fifty
VNT	:	Virus Neutralization Test
VSVRI	:	Veterinary Serum and Vaccine Research Institute, Abbasia, Cairo
nm	:	nanometer
HN protein	:	Heamagglutinin Neuraminidase protein
H protein	:	Heamagglutinin protein
F protein	:	Fusion protein
MAF	:	Macrophage activating factor
S D	:	Statistical Differences
FMD	:	Food and Mouth Disease

SUMMARY

The present work comprised three studies on the use of the immunostimulant levamisole hydrochloride in sheep and goats vaccinated with attenuated PPRV-vaccine (Egypt-87). The aim was to find a way to maximize the obtained neutralizing antibody response to that vaccine. In the three trials, the same dose of both the PPRV-vaccine and levamisole were used to inoculate both susceptible sheep and goats subcutaneously. These doses were $3\log_{10}$ TCID₅₀ of PPRV-vaccine and 2mg/kg body weight of either sheep or goats.

Results of the studies on both sheep and goats were approximate the procedure of the first trial was simultaneous inoculation of both the vaccine and levamisole. Such a procedure did not lead to exaltation of the neutralizing antibody response, since neutralizing antibody titres in treated animals were statistically indifferent from the positive control. Such a result might be attributable to dose unrepetition of levamisole.

The second trial was proceeding with levamisole inoculation by 3 days before vaccination which was followed 3 days later with another dose of levamisole. In this trial, serum neutralizing antibody titres were statistically much higher than those of the first trial.

It was perceivable to attribute such a result to an effective stimulation of the immune mechanism in treated sheep and goats.

The third trial was carried out through inoculation of both the vaccine and levamisole thoroughly mixed together. In this case, obtained results were much lower than those of the first and second trials. This could be attributed to a probable deteriorating effect of levamisole on the antigenic peculiarities of the virus or it might be due to occurrence of some inoculation of the virus.

It could be concluded that the procedure of repetition of dosing with levamisole hydrochloride could result in potentiation of the immune response to PPRV-vaccine in either sheep or goats.