

Detection of protection offered by Ranikhet disease virus vaccine in chicks

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The experiment was conducted to detect the protection offered by Ranikhet disease virus vaccine (F) to chicks. The chicks (130) were divided into groups A and E. Group A birds were vaccinated with Ranikhet disease virus vaccine (RDVF) obtained from the Institute of Veterinary Preventive Medicine (IVPM), Ranikhet, occulonasally on the fifth day of hatch. Group E birds were kept as unvaccinated control group. From each group 6 birds were challenged with 100 CMD 50 dose of virulent Ranikhet disease virus at 26th day of hatch (third week of post-vaccination in the

micro-serum neutralization test (SNT), micro-haemagglutination inhibition (HI) and micro-enzyme-linked immunosorbent assay (ELISA).

Micro-SNT was carried out (Goldwasser and Kohn 1957) using chicken embryo fibroblast (CEF) as host system and CEF-adapted RDVK vaccine virus (obtained from IVPM, Ranikhet) as antigen. Micro-HI was carried out following Allan and Gough (1974).

Micro-ELISA was carried out following Sukumar and Padmanaban (personal communication).

Table 1 : Antibody response of chicks of RDV(F) vaccine and challenge* response as measured by micro SNT, micro - HI and micro-ELISA

Age of birds (days)	weeks after challenge	Mean antibody titres					
		SNT	Group A (protection 100%)		Group E (protection 0%)		ELISA
			HI	ELISA	SNT	HI	
26	0	2.46*	9.32*	12.22*	2.58*	9.46*	5.31*
33	1	10.19 ^h	10.32 ^h	13.29 ^h	2.46*	2.17*	4.98*
40	2	10.32 ^h	10.32 ^h	13.29 ^h	2.32*	2.32*	5.31*
47	3	9.19*	9.05 ^h	2.46*	2.46*	13.29 ^b	5.31*

vaccinated group). Blood samples were collected at intervals of 7 days from the day of challenge up to the third week of post-challenge. Antibody levels were determined by

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At the third week post-vaccination titre values in group A were 2^{9.46}, 2^{9.32} and 2^{12.22} as measured by micro-SNT, micro-HI and micro-ELISA. Respective values in group E birds were 2^{2.58}, 2^{2.46} and 2^{5.31}. All the group A birds withstood challenge whereas all the group E birds succumbed. By the first week of post-challenge in group A, antibody titre rose up to a higher value. This indicated the secondary response by the mammary cells. These results correlated the findings of Wilson *et al.* (1984).

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