



RISK FACTORS FOR BOVINE HERPESVIRUS 1 SEROPOSITIVITY IN INFECTED HERDS



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INTRODUCTION

- Bovine herpesvirus 1 (BHV1) is the causative agent of infectious bovine rhinotracheitis (IBR), abortion, infectious pustular vulvovaginitis in cows and heifers and respiratory disease and systemic infection in calves
- This study was conducted to assess the animal level risk factors for BHV1 seropositivity in infected herds

MATERIALS AND METHODS

- The study population consisted of cows and heifers from 64 BHV1 infected dairy cattle herds
- Herds with positive bulk tank milk BHV1 antibody status were selected randomly from four different herd size groups
- Within herds representative random sample of cows and heifers >6 months old were tested from blood for BHV-1 antibodies
- Questionnaires were filled to collect data on herd level risk factors

RESULTS

Table 1. Random effects logistic regression model for risk factors for BHV1 seropositivity in 2846 cows in 56 infected dairy cattle herds

Risk factor	OR	S.E.	p-value	95% CI
Age (months)	1.06	0.004	0.000	1.05, 1.07
Inseminator working only for particular farm	8.88	6.12	0.002	2.30, 34.26
Veterinarian employee of the farm	5.21	3.61	0.017	1.34, 20.27
Herd has more than one unit	9.98	7.46	0.002	2.31, 43.17
BVDV present in herd	12.53	9.21	0.001	2.96, 52.95
Herd size				
20-99	1	-	-	-
100-199	0.63	0.54	0.597	0.12, 3.40
200-399	0.85	0.74	0.852	0.15, 4.72
>400	0.14	0.15	0.076	0.02, 1.23

Table 2. Random effects logistic regression model for risk factors for BHV1 seropositivity in 2978 heifers in 58 infected dairy cattle herds

Risk factor	OR	S.E.	p-value	95% CI
Age (months)	1.11	0.01	0.000	1.09, 1.13
Inseminator working only for particular farm	29.76	26.72	0.000	5.12, 172.96
Herd has more than one unit	10.49	11.56	0.033	1.21, 90.91
BVDV present in herd	29.73	28.41	0.000	4.57, 193.51
Herd size				
20-99	1	-	-	-
100-199	0.79	0.99	0.851	0.07, 9.45
200-399	0.47	0.57	0.531	0.04, 5.1
>400	0.19	0.28	0.245	0.01, 3.1

CONCLUSIONS

- Seropositivity to BHV1 increases linearly with age
- In infected herds iatrogenic virus spread via veterinarian and inseminator among cows and the latter in heifers can take place referring the need to pay attention to within-herd biosecurity measures
- More than one cattle-barn within farm often means regrouping of animals probably leading to reactivation of the BHV1 and active spread of the virus
- Bovine viral diarrhoea virus (BVDV) can be predisposing factor for BHV1 infection

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