

Communication

[Comunicação]

Frequency of equine viral arteritis in Minas Gerais State, Brazil

[Frequência da arterite viral equina no estado de Minas Gerais, Brasil]

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Equine viral arteritis (EVA) is caused by a virus from family *Arteriviridae* and is connected to respiratory disease and abortion (Doll et al., 1957). Serologic evidence suggests that natural infection occurs in equids (Paweska et al., 1995).

In Brazil, the first outbreak occurred in 1993, in the city of Ibiuna, São Paulo State, in an estate where Mangalarga Paulista horses were raised. From the results of serum neutralization paired tests, showing the serum conversion with presence of anti-equine arteritis virus (EAV) antibodies, the disease was detected (Fernandes et al., 1997). This study was carried out to estimate the frequency and distribution of EVA, in 10 Regional Offices of the Instituto Mineiro de Agropecuária (IMA) in Minas Gerais State, by serum-neutralization technique as a way to support future approaches to control the disease.

Eight hundred and twenty-six serum samples from equids were collected in 10 Regional Offices. Each Regional Office of IMA represents a group of cities from a microregion, determined in accordance with the central office localization. Blood was collected through puncture in jugular vein and stored in sterile test tubes. After coagulation, the serum were separated, identified and stored frozen at -20°C for processing at the Laboratório de Virologia do Instituto Biológico de São Paulo.

The used methodology was the microplate serum-neutralization technique described by Senne et al. (1985). The standard sample for

EAV used in the test was the strain CVL-Bucyrus (donated by Dr. Peter Timoney¹ and kept at the Instituto Biológico de São Paulo). The strain was multiplied in rabbit kidney cells (RK-13).

Seven (0.85%) out of the 826 equids serum samples were positive for equine arteritis virus considering the 10 Regional Offices of IMA (Table 1).

Despite the low percentage of positive animals found, the presence of the virus in Minas Gerais State should be regarded as a major epidemiologic factor, mainly considering that equine culture in that State is the biggest in Brazil (Pesquisa..., 2000) and the intense transit of animals for exhibitions, contests and fairs. Data presented by Souza (1996) for São Paulo State, allowed the observation that the seropositivity rates found in the border region between São Paulo and Minas Gerais are higher than the total seropositivity rate (Campinas, 24.6%; São José dos Campos, 24.4% and Ribeirão Preto, 15.4%).

These results are close to that obtained by Souza et al. (1999) that reported 1.04% in the region of Vale do Paraíba, São Paulo State. While Souza (1996) found a seropositivity rate of 18.2% in equines for São Paulo State, Silva et al. (1999) and Heinemann et al. (2002) did not find seropositivity in their respective studies.

Recebido em 13 de setembro de 2006

Aceito em 17 de maio de 2007

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Table 1. Results of serum neutralization tests for equine viral arteritis carried out in samples collected in 10 Regional Offices of IMA in Minas Gerais State

Regional office	Number of animals	Result			
		Reactive	%	Non-reactive	%
Almenara	130	1	0.77	129	99.23
BambuÍ	44	0	0.0	44	100
Curvelo	88	0	0.0	89	100
Gov. Valadares	47	0	0.0	47	100
Montes Claros	92	1	1.09	91	98.91
Oliveira	47	1	2.12	46	97.87
São Gonçalo do SapucaÍ	45	1	2.22	44	97.78
Teófilo Otoni	147	2	1.36	145	98.64
Unai	128	0	0.0	128	100
Viçosa	58	1	1.72	57	98.28
Total	826	7	0.85	819	99.15

The frequencies of EAV infection found for each studied species were: equines 0.80% (6/749); asinines 25% (1/4) and muars 0%. As for the muars and asinines, it was not found data on animal EAV seropositivity in Brazil (Heinemann et al., 2002). Though there were no reports of EVA natural transmission among equid species, the potential epidemiologic risk of viral dissemination must be considered (Paweska et al., 1996; Paweska et al., 1997).

By the detection of anti-EAV antibodies, the contact of equids with equine arteritis virus was established in seven out of the 10 Regional Offices investigated in Minas Gerais State. The EVA should be considered in the investigative routines for the differential diagnosis of respiratory disorders and abortions in equines in Minas Gerais State.

Keywords: equids, equine viral arteritis, Minas Gerais State

RESUMO

Verificou-se a frequência e a distribuição de equídeos soropositivos para arterite viral equina (AVE) em 10 Delegacias Regionais do IMA no estado de Minas Gerais, por meio da técnica soroneutralização. A taxa de animais reagentes foi 0,85% (7/826) e em cada Delegacia Regional: Almenara (0,77%), Montes Claros (1,09%), Oliveira (2,12%), São Gonçalo do SapucaÍ (2,22%), Teófilo Otoni (1,36%) e Viçosa (1,72%). O presente estudo indica a presença de animais soropositivos para AVE em diferentes regiões do estado de Minas Gerais.

Palavras-chave: equino, arterite viral equina, Minas Gerais

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