

Saskatchewan

Haemophilus somnus myocarditis versus thrombotic meningoencephalitis in western Canada

Haemophilus somnus infection of cattle can produce several clinical syndromes, of which thrombotic meningoencephalitis (TME) has been considered to be the most prevalent and clinically significant form of the disease. In western Canada in recent years, myocardial infection with *H. somnus* has appeared to become of greater importance than thrombotic meningoencephalitis (TME) (1), but this information has not been well documented. We report herein the results of an analysis of the number of cases of TME and myocarditis diagnosed by the Diagnostic Pathology Laboratory at the Western College of Veterinary Medicine (WCVM) between 1967 and 1989.

Positive cases of *Haemophilus somnus* infection were classified as TME or myocarditis (includes infarction, suppurative myocarditis, or pericarditis) by gross and histological examination, and tabulated by year of diagnosis (Figure 1). The first case of TME was recorded in 1970, and the first case of myocarditis in 1973. When diagnoses of both TME and myocarditis were made in the same animal, the case was classified according to the predominant clinical information provided by the history. Many cases of myocarditis, and to a lesser extent TME, were also accompanied by pneumonia, pleuritis, laryngitis, polyarthritis, and nephritis. Although pneumonia alone is reported as a form of hemophilosis (1), we seldom encountered pneumonia as the primary diagnosis.

This information must be interpreted with caution because samples sent to a diagnostic laboratory do not represent a cross-sectional sample of the population, and tissue examination and sampling may have changed from year to year. **However, despite these limitations, the analysis supports an increase in the number of cases of myocarditis, and a decline in the TME form of hemophilosis since 1985, in the area served by the Diagnostic Pathology Laboratory at WCVM.** During an outbreak of hemophilosis, one or more possible clinical manifestations may appear. A reason for the recent predominance of myocarditis in western Canada versus the reported predominance of TME in the remainder of North America is not readily apparent. Harris and Janzen (1) have suggested

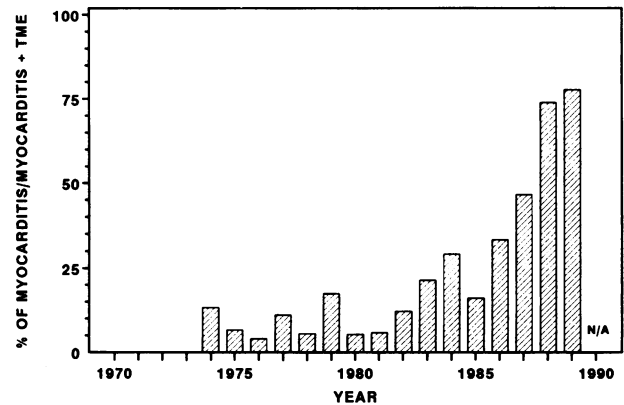


Figure 1. Percentage of *Haemophilus somnus* diagnoses attributed to myocarditis versus thrombotic meningoencephalitis and myocarditis in Western Canada.

that vaccination and treatment programs, or evolution of different strains, may be responsible for the increase in the myocardial form of the disease. Increased awareness and more frequent sampling of the myocardium may also contribute to the increased frequency of diagnoses of myocarditis. In our experience, myocardial lesions may be missed if the papillary muscles are not examined carefully, or if in the absence of gross lesions, histology is not undertaken to identify microscopic foci of infection.

The *H. somnus* disease complex has many forms, of which TME and pneumonia, but not myocarditis, have been reproduced experimentally. Whether there are strain or geographical differences in the bacteria, or differences in management that affect the expression of the disease, remains unknown.

Reference

- Harris FW, Janzen ED. The *Haemophilus somnus* disease complex (hemophilosis): a review. *Can Vet J* 1989; 30: 816-822.

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