

1. Introduction

Pulmonary disease can be a major health problem during the neonatal period of a foal's life. The clinical assessment of neonatal respiratory disease may, however, be difficult since early localizing clinical signs can be subtle and indications of respiratory distress and hypoxemia are frequently vague. Thoracic radiographs are very helpful in evaluating aeration of the lungs and pulmonary disease, which may be otherwise clinically undetectable (Beech 1985). The distribution of the abnormal pulmonary pattern may also provide insight as to cause (Lester and Lester 2001). However, the prognostic significance of the radiographic changes and their correlation with clinical parameters in neonatal foals have not been investigated.

Section one of the presented study was, therefore, conducted to explore the association between selected clinical parameters and the radiographic manifestation of pulmonary disease. We further investigated the impact of pattern recognition, distribution, and severity of pulmonary changes on short-term survival.

Neonatal pneumonia is a common cause of morbidity and mortality in the sick equine neonate (Beech 1985). Respiratory disease is often related to aspiration, descending or hematogenous spread of infection, birth asphyxia or prematurity. Infectious neonatal respiratory diseases are usually a part of complex multi-organ, systemic infections or SIRS (systemic inflammatory response syndrome) (Paradis 1989). Although various conditions that are associated with respiratory distress in neonates, have been previously reported (Koterba 1990), the assessment of predictive variables of equine neonatal pulmonary disease is presently poorly described.

Numerous studies have considered prognostic indicators for foals with sepsis (Hoffman, Staempfli et al. 1992; Barton, Morris et al. 1998; Gayle, Cohen et al. 1998), prematurity (Jeffcott 1982) or septic arthritis (Steel, Hunt et al. 1999). A previous study described clinical and radiographic findings in equine neonates for which thoracic radiographs were obtained due to a suspicion of pulmonary disease (Lester 1998). Methods for accurately predicting

survival in these foals, however, have not been reported. The objective of section two of our study was therefore to identify clinical variables in neonatal foals, which first, may indicate or predispose neonates to respiratory disease, and second, may predict survival of foals with radiographic evidence of pulmonary infiltrates.