Efficacy of Sustained Release Ceftiofur Suspension for *Streptococcus equi* subsp. *zooepidemicus* Bronchopneumonia

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Horses with *Streptococcus equi* subsp. *zooepidemicus* (*Strep. zoo.*) pneumonia were given two doses of sustained release ceftiofur 4 days apart, and a clinical cure occurred in 69.1% of treated horses compared with 31.6% of placebo horses. Authors’ addresses: Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Iowa State University, Ames, Iowa 50010-1250 (McClure); Pfizer Animal Health, 333 Portage Street, Kalamazoo, Michigan 49007 (Sibert, Hallberg); and Microbial Research Incorporated, 2649 East Mulberry Street #15, Fort Collins, Colorado 80524 (Bade); e-mail: mcclures@iastate.edu. © 2010 AAEP.

1. Introduction

Since the approval of ceftiofur sodium for horses in 1994, there has been no change in the *Streptococcus equi* subsp. *zooepidemicus* (*Strep. zoo.*) antibiogram and the organism remains sensitive. A sustained release ceftiofur should improve both effectiveness and client compliance. The objective of this study was to evaluate sustained release ceftiofur for treatment of *Strep. zoo.* pneumonia.

2. Materials and Methods

This field trial was part of Food and Drug Administration/CVM approval of sustained release ceftiofur for *Strep. zoo.* pneumonia. Horses with bronchopneumonia were enrolled when they met severity criteria. When enrolled, a transtracheal wash (TTW) was performed, and drug or placebo was administered on days 0 and 4. Clinical evaluations were conducted on days 4, 9, 15, and 25. Any horse not improving on days 4, 9, and 15, or had a relapse by day 25, was considered a treatment failure. Cases with >$10^4$/ml *Strep. zoo.* organisms in the TTW were used to evaluate efficacy for *Strep. zoo.* bronchopneumonia.

3. Results

A total of 373 horses with bronchopneumonia, regardless of pathogen, were enrolled. There were 44/95 (46.3%) placebo-treated horses and 39/278 (14.0%) ceftiofur-treated horses that did not respond and were given alternative therapy. In cases of confirmed *Strep. zoo.* pneumonia, clinical cure was achieved in 66.9% of 145 treated horses compared with 32.1% of 56 placebo-treated horses ($p = 0.0286$). The most frequent complications were associated with the TTW procedure.

4. Discussion

Sustained release ceftiofur was effective treatment for bronchopneumonia as the sole therapy. Treat-
ment efficacy may be improved with the addition of anti-inflammatory and bronchodilatory drugs. Treatment with two doses, 4 days apart, is effective and simple.

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Reference