Chemoprophylactic Effects of Azithromycin Against *Rhodococcus equi* Pneumonia Among Foals at Endemic Equine Breeding Farms

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Azithromycin, when administered orally at 10 mg/kg, q 48 h, to foals for the first 2 wk of life, is effective at reducing the incidence of *Rhodococcus equi* pneumonia among foals at endemic equine breeding farms. Authors’ address: Equine Infectious Disease Laboratory, Department of Large Animal Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX 77843; e-mail: kchaffin@cvm.tamu.edu. © 2007 AAEP.

1. Introduction

*Rhodococcus equi* causes severe pneumonia in foals worldwide. Most affected foals likely become infected very early in life. A novel strategy for prevention of *R. equi* pneumonia is the administration of effective antimicrobials to foals during the first few days of life. The objective of this study was to determine the effect of azithromycin (AZ) chemoprophylaxis on the incidence of *R. equi* pneumonia among foals at *R. equi*-endemic equine breeding farms.

2. Materials and Methods

A controlled, randomized, clinical trial was performed at 10 equine breeding farms with history of endemic *R. equi* infections. Group 1 foals were untreated controls, and group 2 foals were treated with AZ* (10 mg/kg, PO, q 48 h) during the first 2 wk of life. Enrolled foals were monitored for development of *R. equi* pneumonia. Fecal and tracheobronchial isolates of *R. equi* were tested for susceptibility to AZ. Data were compared between treatment groups.

3. Results

There were 338 foals studied. The proportion of *R. equi*-affected foals was significantly higher for control foals (21%) than for AZ-treated foals (5%). The estimated protective efficacy of AZ chemoprophylaxis was >85%. Neither adverse effects of AZ therapy nor AZ-resistant isolates were observed.

4. Discussion

The results of this study showed that AZ chemoprophylaxis effectively reduces the prevalence of *R. equi* pneumonia among foals at endemic breeding farms. Adverse effects of AZ chemoprophylaxis were not detected. The investigators failed to identify AZ-resistant *R. equi* in this limited study. Nonetheless, antimicrobial resistance could develop with indiscriminant widespread use of AZ as a preventative therapy. Further study is needed to identify methods for control of *R. equi* infections.
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**Footnote**

"Zithromax, azithromycin for oral suspension, 1-g packets, Pfizer Laboratories, New York, NY 10017."