Treatment Efficacy of Trimethoprim Sulfamethoxazole, Pentoxifylline, and Altrenogest in Equine Placentitis

C. Scott Bailey, DVM; Margo L. Macpherson, DVM, MS; Jennifer Graczyk, BS; Malgorzata A. Pozor, Med Vet, PhD; Mats H.T. Troedsson, DVM, PhD; Michelle M. LeBlanc, DVM; and Thomas W. Vickroy, PhD

Mares with experimentally induced placentitis delivered more live foals after treatment with trimethoprim sulfamethoxazole, pentoxifylline, and altrenogest than untreated mares with experimentally-induced placentitis. This drug combination shows potential for treatment of equine placentitis when administered early in the disease process and continued on a long-term basis. Authors’ addresses: Department of Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, P.O. Box 100136, Gainesville, FL 32610 (Bailey, Macpherson, Graczyk, Pozor, Troedsson); and Department of Physiological Sciences (Vickroy), Rood and Riddle Equine Hospital, P.O. Box 12070, Lexington, KY 40511 (LeBlanc); e-mail: BaileyC@vetmed.ufl.edu. © 2007 AAEP.

1. Introduction
The objective of this study was to determine if long-term treatment with trimethoprim sulfamethoxazole (TMS; antimicrobial), pentoxifylline (PTX; anti-inflammatory/anti-cytokine), and altrenogest (ALT; synthetic progestin) would improve pregnancy outcome in mares with experimentally-induced placentitis. We hypothesized that combined treatment with TMS, PTX, and ALT would delay premature parturition in mares with experimentally-induced placentitis and improve neonatal viability.

2. Materials and Methods
Seventeen normal pregnant pony mares were enrolled in the study at 280–295 days of gestation. Placentitis was induced in all mares by intracervical inoculation of Streptococcus equi subspecies zooepidemicus ($10^7$ Colony Forming Units [CFU]). Five mares served as infected, untreated control animals (group CON). Twelve mares (group TXT) were infected and administered TMS (30 mg/kg, q 12 h, PO), PTX (8.5 mg/kg, q 12 h, PO), and ALT (0.088 mg/kg, q 24 h, PO) from the onset of clinical signs until delivery of a live foal or abortion. Fetal stomach and thoracic contents were obtained for culture from dead fetuses, and blood samples were cultured from live foals at delivery. Effect of treatment on foal viability was determined using Fisher’s Exact Test; p < 0.05 was considered significant.

3. Results
More mares in group TXT delivered viable foals (10/12; 83%) than mares in group CON (0/5; 0%). Ten of twelve foals (83%) in group TXT had negative blood-culture results at birth. All foals in group...
CON (5/5; 100%) had positive stomach-content and thoracic-fluid cultures, and *S. equi subs. zooepidemicus* was recovered in samples from three of five (60%) foals.

4. Discussion
Mares with placental infections that underwent long-term treatment with SMZ, PTX, and ALT carried pregnancies longer and delivered more viable foals than untreated mares. These data suggest that the combined regimen may reduce effects of infection and inflammation in initiating preterm labor.

This work was funded by the Grayson-Jockey Club Research Foundation and Intervet.