B-Mode and Doppler Ultrasonography in Pony Mares With Experimentally Induced Ascending Placentitis

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Measurement of the combined thickness of the uterus and placenta sensitively detected experimentally induced equine placentitis, whereas physical exam findings, fetal heart rate, and uterine artery blood flow did not change after infection. Authors’ addresses: College of Veterinary Medicine, North Carolina State University, 1060 William Moore Drive, Raleigh, NC 27606 (Bailey, Heitzman, Buchanan, Borst, Archibald, Whitacre); and College of Veterinary Medicine, University of Florida, Gainesville, FL 32610 (Macpherson); e-mail: scott_bailey@ncsu.edu. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction
Early diagnosis of equine placentitis represents a key challenge for successful treatment. Doppler ultrasonography has shown promise in sensitively diagnosing gestational abnormalities in women and horses and is increasingly available to equine clinicians. However, no studies have prospectively compared this technique with measurement of combined thickness of the uterus and placenta (CTUP). The objective of the current study was to compare the diagnostic sensitivity of Doppler ultrasonography and B-mode ultrasonography for the detection of ascending placentitis in experimentally induced mares.

2. Materials and Methods
Eleven pregnant pony mares were enrolled in a monitoring program between 250 and 270 days. Placentitis was experimentally induced in six mares (group INOC) between days 280 and 295, whereas five mares served as uninfected controls (group CONT). All mares were intensively monitored until foaling. Fetal heart rate (FHR), CTUP, resistance index, pulsatility index, arterial diameter, total arterial blood flow, and physical exam findings (TPR) were recorded for each examination.

3. Results
The CTUP was increased above normal in five of six mares in group INOC within 3 days after inoculation (P = 0.05) and remained elevated throughout gestation. Doppler indices, TPR, and FHR were not different from group CONT after inoculation or before foaling or abortion.

4. Discussion
Measurement of CTUP quickly diagnosed placentitis in our study, whereas other parameters remained unchanged.

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