Emerging Outbreaks Associated With Equine Coronavirus in Adult Horses

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Equine coronavirus (ECoV) is associated with self-limiting clinical and hematological abnormalities in adult horses. Real-time polymerase chain reaction is a sensitive and fast diagnostic tool to document the presence of ECoV in feces from horses with lethargy, anorexia, fever, and changes in fecal character. Authors’ addresses: Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis, CA 95616 (Pusterla, Mapes, Wademan, White, Magdesian); Bracken Equine Clinic, 18675 Marbach Lane, San Antonio, TX 78266 (Ball, Sapp); Elkhorn Veterinary Clinic, 205 Oconnor Drive, Elkhorn, WI 53121 (Burns); Oak Hill Veterinary Services, 1755 Locust Street, Walnut Creek, CA 94596 (Ormond); SRH Veterinary Services, 295 High Street, Ipswich, MA 01938 (Butterworth); New England Equine Medical and Surgical Center, 15 Members Way, Dover, NH 03820 (Bartol); e-mail: npusterla@ucdavis.edu. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
Outbreaks associated with equine coronavirus (ECoV) in adult horses have rarely been reported in the literature. The purpose of this study was to describe clinical and laboratory results from 161 adult horses involved in outbreaks associated with ECoV.

2. Materials and Methods
The outbreaks occurred at four separate boarding facilities between November 2011 and April 2012 in the states of California, Texas, Wisconsin, and Massachusetts. After the molecular detection of ECoV in the feces from the initial index cases, the remaining herdmates were closely observed for the development of clinical signs. Fecal samples were collected from sick and healthy horses for the polymerase chain reaction (PCR) detection of ECoV.

3. Results and Discussion
Fifty-nine adult horses had development of clinical signs, with 12 to 16 sick horses per outbreak. The main clinical signs reported were anorexia, lethargy, and fever. Blood work was available from 10 horses with clinical disease, and common hematological abnormalities were leucopenia caused by neutropenia and/or lymphopenia. Feces were available for ECoV testing by real-time PCR from 44 and 96 sick and healthy horses, respectively. The
overall agreement between clinical status and PCR detection of ECoV was 91%. The study results suggest that ECoV is associated with self-limiting clinical and hematological abnormalities in adult horses. 

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