

PubMed

Display Settings: Abstract

J Vet Intern Med. 2013 Jan-Feb;27(1):186-93. doi: 10.1111/jvim.12003. Epub 2012 Nov 29.

Traditional and quantitative assessment of acid-base and shock variables in horses with atypical myopathy.

van Galen G, Cerri S, Porter S, Saegerman C, Lefere L, Roscher K, Marr C, Amory H, Votion DM.

Department of Epidemiology, Unité de recherche en épidémiologie et analyse de risques appliquées aux sciences vétérinaires, FMV University of Liege, Belgium. gaby@equinespecialists.eu

Abstract

BACKGROUND: Descriptions of **acid-base** disturbances in **atypical myopathy** (AM) are limited.

OBJECTIVES: Describe and compare **traditional** and **quantitative acid-base** abnormalities and cardiovascular **shock** status in **horses** with AM at admission.

ANIMALS: 34 **horses** with AM, 15 healthy controls.

METHODS: Retrospective case-control study. Records were searched for **shock variables** (packed cell volume [PCV], blood urea nitrogen [BUN], heart and respiratory rate) and **acid-base variables** (venous blood gas analysis, electrolytes, total protein, lactate) on admission. Base excess (BE) of free water (BE_{fw}), chloride (BE_{cl}), total protein (BE_{tp}), and unidentified anions (BE_{ua}), anion gap (AG), measured strong ion difference (SID_m), and concentration of total nonvolatile weak acids ([A_{tot}]) were calculated. **Acid-base** classifications, using simplified strong ion model and **traditional** approach, and **shock** grades were assigned. A 2-sample Wilcoxon rank-sum test and Bonferroni correction compared **variables** in AM cases versus control **horses**. Significance was $P < .05/16$ for **acid-base** and $P < .05/5$ for **shock variables**.

RESULTS: Tachycardia, tachypnea, and normal to increased PCV and BUN were common in AM cases. Respiratory, metabolic **acid-base** alterations, or both were mainly caused by respiratory alkalosis, lactic acidosis, and SID_m alkalosis, alone or in combination. Evaluated **variables** (except pH, potassium concentration, total protein, and related calculations) were significantly different ($P < .001$) between AM cases and control **horses**. The strong ion model provided a more accurate **assessment** than the **traditional** approach and identified mixed derangements.

CONCLUSIONS AND CLINICAL IMPORTANCE: **Acid-base** derangements should be evaluated in **horses** with AM and this preferably with the strong ion model.

Copyright © 2012 by the American College of Veterinary Internal Medicine.

PMID:23193982[PubMed - indexed for MEDLINE]

MeSH Terms 

LinkOut - more resources

