



9th Congress of the European College of Equine Internal Medicine

4-5 November 2016
Helsinki, Finland



HELSINKIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI
ELÄNLÄÄKETEHTEELLINEN TIEDENUNTA
VETERINÄRMEDICINSKA FAKULTETEN
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BLOOD GAS LEVELS IN NEWBORN FOALS AFTER NORMAL AND ASSISTED DELIVERY. F. Bonelli¹, A. Lanci², J. Mariella², F. Freccero², C. Castagnetti², P. Marmorini¹, M. Sgorbini¹. ¹Department of Veterinary Sciences, Veterinary Teaching Hospital "Mario Modenato", Pisa, ²Department of Veterinary Medical Sciences, University of Bologna

Umbilical cord blood gas analysis can provide important information about conditions of the newborn and its use is common in human medicine for diagnosis of perinatal diseases. The aim of this study was to evaluate the blood gas levels and acid-base status in newborn foals after normal and assisted delivery.

Fifteen foals were included and were divided into 2 groups: 12 healthy foals (Group 1) with gestational age ≥ 320 days, normal delivery, and APGAR score ≥ 8 five minutes after birth and 3 foals (Group 2) with gestational age ≥ 320 days, assisted delivery and APGAR score < 8 . Blood samples were drawn from an umbilical artery (Group 1) and from jugular vein (Group 2). The pH, pCO₂, pO₂, SO₂%, HCO₃⁻ and base excess were assessed using a standard laboratory blood gas analysis. Blood lactate concentration was also evaluated in 6 foals of Group 1 and in all foals of Group 2 with a hand-held analyzer. Mares' age and parity, gestational age, and length of stage II labor were also recorded. Shapiro-Wilk normality test was applied. Whitney test for unpaired data and Student's t test were used for statistical analysis.

Statistical differences were obtained for pH (Group 1: 7.4 ± 0.1 ; Group 2: 7.3 ± 0.0), HCO₃⁻ (Group 1: 31.5 ± 6.2 mmol/L; Group 2: 30.1 ± 2.1 mmol/L), lactate (Group 1: 5.4 ± 1.9 mmol/L; Group 2: 13.0 ± 8.0 mmol/L), and base excess (Group 1: 5.7 ± 6.2 ; Group 2: 3.3 ± 1.3), while no differences were obtained for the other data collected. Our results showed acidosis in foals born after assisted delivery, as reported in human neonatology.