Lack of Association Between Hypocalcaemia and Retained Placenta in Belgian Draft Horses and Warmblood Horses

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Although retained fetal membranes in Friesian horses have been shown to be influenced by low Ca²⁺ levels in the serum of the mare, this correlation could not be found in the Belgian Draft Horse. Authors' address: Department of Reproduction, Obstetrics, and Herd Health, Faculty of Veterinary Medicine, Ghent University, Salisburylaan 131, B9820, Belgium; e-mail: jangovaere@ugent.be.

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1. Introduction
In the Belgian Draft Horse (BDH) population, a high prevalence of retained placenta (RP) has been reported. In Friesian horses, hypocalcemia was shown to play a role in the pathogenesis of RP. The objective of this study was to evaluate if a similar association could be observed in BDH mares. We also studied if age, parity, and placental weight were associated with the occurrence of RP.

2. Methods
Blood samples were collected from 29 BDH mares and 16 Warmblood (WB) mares that foaled without complications. All mares were housed in boxes for ≥1 mo before foaling and were without known history of RP. They were fed with silage and hay, and WB mares were supplemented with concentrates. All mares foaled between March 1 and May 1. Blood samples were obtained from the jugular vein within 1 h of foaling (i.e., within the interval of normal expulsion) and were centrifuged at 2000g. Serum was stored at −18°C to be processed for free Ca²⁺ analysis (absorption spectrophotometry). The mares were diagnosed as suffering from hypocalcemia when serum levels were <6 mg/dl free Ca²⁺.

RP was defined as the failure to expel all or a part of the fetal membranes within 3 h after delivery of the foal. Statistical analysis was done using the independent-samples t-test (sTt) and the Fisher's exact test (Fet).

3. Results
Seventeen BDH mares (58.6%) and zero WB mares suffered from RP. In the BDH group, no statistically significant differences were found for serum-ionized calcium concentrations between BDH mares with RP and BDH mares without RP (sTt). The presence of RP was not associated with increasing age or...
increasing parity ($sTt$). Also, placent weight did not significantly differ in mares with RP and mares without RP ($Fet$).

4. Discussion

The absence of significant differences in blood calcium concentration between the RP mares and mares that did expel the placenta in time is different from the findings of Sevinga et al.\textsuperscript{2} Possible explanations may be the limited numbers of mares, breed differences (BDH versus Friesian), and/or timing of blood sampling, which was, in our study, much earlier post-partum than in the study by Sevinga et al.\textsuperscript{2} Based on the results of this preliminary study in the BDH, hypocalcemia might be less important in the pathogenesis of RP; however, other causes (e.g., in-breeding) might be more important in the pathogenesis of RP in the BDH.

References and Footnote


\textsuperscript{a}Vacutainer Systems, Becton Dickinson & Co., Franklin Lakes, NY 07480.