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A new classification for anemia in Standardbred trotter horses

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Anemia is defined as a decrease in the erythrocyte content or oxygen-carrying capacity of blood as a consequence of a drop in hematocrit (HCT), red blood cells count, and/or hemoglobin concentration to less than the lower limit of the laboratory reference interval. Anemia has usually been classified accordingly with the hematocrit in mild, moderate and severe; with the mean corpuscular value (MCV) in macro/normo/microcytic; with the mean corpuscular hemoglobin concentration (MCHC) in iper/normo/ipo chromic. The aim of this study was to propone a new classification of anemia following the new range recently published for Standardbred trotters racing in Italy. Four grade of anemia in function of HCT were suggested: Slight (36-34%), mild (33.9-30%), moderate (29.9-20%), and severe (<19.9%); defined as microcytic (MCV<39.9fl), normocytic (40<MCV<44fl), macrocytic (MCV<45fl) and ipochromic (MCHC<36 g/dl), normochromic (36<MCHC<38 g/dl) and iperchromic (MCHC>38.1 g/dl). A retrospective study on 169 trotter showing poor performance were also conducted using the new classification and of the total 42.8% horses showed slight anemia, 44% mild and 13.2% moderate one. It is to underline that the slight anemic horses appeared clinically health apart showing speed reduction. Anemia is not a disease but a hematological sign that depends when the horse is suffering from one or more of the following mechanisms: blood loss, increased RBC destruction, decreasing or ineffective RBC production. Overall, throughout this new classification, clinicians may put more attention to the slight grade of anemia, trying to identify and eliminate the primary cause, at an early stage of the process.

Biography

Barbara Padalino graduated in Veterinary Medicine at Bari University (Italy). Since 2002, she has worked on Standardbred trotters as private internist clinician and in 2004 started working as Researcher at Bari University. Her research fields are equine internal medicine, sport medicine and animal welfare. During her career she has published more than 20 papers in journals and presented more than 20 studies on international conferences. Actually, she is doing an international PhD at Sydney University (Australia) and her research topic is about the effects of transportation on racehorse's health and behavior. She is a member of the International Society of Equitation Science and her researches aim to improve equine welfare.

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