

Regenerative therapy using platelet rich plasma and fibrin patches on skin lesions of equines



Jacqueline Maisonnave^[a], Valeria Campbell^[a], Victoria Hernandez^[a], Alejandra Mondino^[a], Oscar Ferreira^[a], Javier Mirazo^[a], Kevin Yaneselli^[a]

^[a] Facultad de Veterinaria, Universidad de la República (UdelaR), Montevideo – Uruguay

Abstract

Sport horses suffer injuries in the distal region of their legs very often. The healing with traditional treatment usually takes long time and often might develop in fibrotic or exuberant granulous tissue scars. Lately, regenerative medicine has been improving really fast. This therapy is based on the principles that regulate cell organization and regeneration. Platelet Rich Plasma (PRP) is one of the most popular products of regenerative medicine used in treatment of soft tissue in horse medicine. In this study we aimed to evaluate the repair produced by regenerative treatments using PRP and fibrine patches of skin wounds on horses. Three female thoroughbreds mares (one 4 years old and two 1 and half years old) with skin injuries after unsuccessful traditional treatments were submitted to regenerative treatment with intradermal perilesional applications of Platelet Rich Plasma (PRP) and topics of fibrin patches (FP). The PRP was obtained by double centrifugation and the FP after simple centrifugation of blood with anticoagulant. The FPs of 1ml of plasma gelified with 10% of CaCl₂ (average 150x10³ platelets/ul) were applied on clean wounds for 3 days with one week intervals (3 to 6 FP each horse). The PRP was applied intradermally perilesional, (two to six, 1 ml applications/per horse in 2 sites with an average of 460 x10³ platelets/ul). The evaluation of the treatments described above was performed up to 2 months. In all the cases, one month after starting the regenerative treatment the wounds were better, 50% smaller with epithelization and granulous tissue. After 2 months, the wounds shrank from 70% or to complete resolution. No exuberant granulous tissues appeared, nor were adverse reactions observed in any of the cases studied. Even though this work studied very few cases, the regenerative treatment applied accelerated the healing and had less scar tissue when compared to the traditional treatment.

In order to establish a regenerative medicine protocol of skin treatment using PRP and FP, more studies need to be carried out.

Ethics Committee: CEUAFVET-PI-22/14 -Exp. 111130-000934-14