

Comments on Torricelli et al.: Regenerative medicine for the treatment of musculoskeletal overuse injuries in competition horses

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Dear Editor,

We would like to raise some concerns regarding the article “Regenerative medicine for the treatment of musculoskeletal overuse injuries in competition horses” by Torricelli et al [1]. Although, the main objective of the authors was to evaluate the clinical benefit of administering a combination of autologous platelet rich plasma (PRP) and freshly isolated bone marrow mononucleated cells (BMMNCs) to competition horses affected by overuse musculoskeletal injuries that are refractory to other therapies, some assumptions expressed by them could incite the use of this combined biological therapy without sufficient scientific basis.

Our opinion is based on the following points:

1. The authors did not include a control group or at least one group only receiving PRP. It is irresponsible to recommend the use of this combined biological treatment without having an adequate study design.
2. BMMNCs are very sensitive to high calcium concentrations. It is likely that the 10% calcium chloride solution used to activate PRP produced death or

metabolic impairment of the BMMNCs (and the subset of multipotent cells in it), and would explain why the concentration of these cells was not related to clinical benefit in this study.

3. It is possible that the unique clinical effect of this treatment is related to the use of PRP *per se* and not to the BMMNCs. In this sense, the morbidity associated with bone marrow aspiration in the patients and the associated costs for the owners could be unnecessary.

We hope that you consider our letter to be of importance for the correct use of regenerative therapies in horses with musculoskeletal overuse injuries.

References

1. Torricelli P, Fini M, Filardo G et al (2011) Regenerative medicine for the treatment of musculoskeletal overuse injuries in competition horses. *Int Orthop*. doi:10.1007/s00264-011-1237-3

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