Effect of homeopathic treatment used in commercial boar semen diluent on sperm viability

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ABSTRACT

Background: It has been speculated that the homeopathic treatment of sperm cells in order to improve semen quality could be promising. However, few data is available and its use in spermatozoa requires investigation. It is well established that mitochondrial membrane potential is an important viability parameter of spermatozoa and it is intimately related to reproductive efficiency. In this manner, new technologies in order to improve the activity of sperm cells and, finally, the fecundity of swine herds are of extremely importance. Due to the lack of knowledge of homeopathic treatment effect on spermatozoa, the aim of the present study was to verify the effect of three different homeopathic treatments on viability of boar sperm cells.

Methods: semen samples were obtained from two sexually mature boars (18 mo of age). The boars were cross bred, with similar genetics of Pietrain versus Duroc, BP 450 progeny from a supplier company of similar reproductive performance animals. The animals were maintained in individual stalls, study conducted in Sao Paulo - Brazil. Three homeopathic treatments: *Pulsatilla* 6CH, *Avena* 6 CH or both, compared to placebo treatment (sucrose), the homeopathic medicaments or the control were administrated as globules manipulated according Brazilian Homeopathic Pharmacology. Each globule weighted 30 mg and contained sucrose as vehicle. One dose of two globules was added per 100 mL of diluted boar semen, which were chilled for 24 or 48 hours. All samples were labeled in codes in order to allow all laboratory analysis and evaluations being performed as a blind test. Data were tested for normality of residues and homogeneity of variances using the Guided Data Analysis software. Variables

and interactions were analyzed by the PROC MIXED of the SAS package (SAS Institute Ins. Cary, NC). Adjusted least squares means (LSMEANS) of treatments were compared using the Tukey Test.

Results: The different treatments contributed to maintain acrossome integrity for prolonged periods of cooling over 48 hours. The use of Pulsatilla was effective in maintaining high sperm mitochondria activity up to 24 hours from harvesting (figures 1, 2 and 3).

Figure 1. Effect of storage period (24 or 48 h) on intact plasma membranes, intact acrossome, and high mitochondrial potential rates.

Figure 2. Effect of Animal on intact plasma membranes, intact acrossome, and high mitochondrial potential rates.

Figure 3. Effect of homeopathic (Pulsatilla, Avena, Pulsatilla +Avena) or control on intact plasma membrane, intact acrossome, and high mitochondrial potential rates.

Conclusion: Homeopathic medications can be used in artificial insemination in order to improve the quality of cooled and stored pig semen [1].

Keywords: homeopathy, swine semen, sperm viability.

Reference

[1] Soto, F. R. M.; Vuaden, E. R.; Coelho, C. P.; Bonamin, L. V.; Azevedo, S. S. A.; Benites, N. R.; Barros, F. R. O.; Goissis, M. D.; Assumpção, M. E. O. D.; Visintin, J. A.; Marques, M. G. Effects of the utilization of homeopathic elements in commercial diluent on swine sperm viability. *In Vitro Cell.Dev.Biol.—Animal*. 47:205–209, 2011.

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