Can panax ginseng aqueous extract improve chilled and cryopreserved bull spermatozoa?

ABSTRACT

This study was to evaluate the influence of Panax ginseng aqueous extract on chilled and frozen-thawed bull sperm quality. Samples of semen were acquired from four bulls through the use of an electro-ejaculator. Extension of the semen was done with tris-egg yolk diluent which was augmented with 0.0, 0.25, 0.5, 1.0, 2.5, 5.0, and 7.5 mg/mL Panax ginseng aqueous extract. Diluted chilled portions of the semen were chilled for 6 days at 5℃ whereas the frozen semen was cryopreserved in liquid nitrogen. Results revealed that in chilled and frozen-thawed semen, the control group, T1 and T2 recorded higher percentages in terms of sperm motility and viability in all three groups evaluated compared to others, while the high dose of Panax ginseng aqueous extract in T6 and T5 recorded the lowest percentage. Moreover, the values of sperm morphology for chilled and frozen-thawed semen were not significant among the groups. The results of chromatin stability of the present study showed that T2 and control were higher than for other groups. In conclusion, the low dosage groups (T1, T2 and T3) which were received (0.25 mg/mL, 0.5 mg/mL and 1 mg/mL, respectively) from Panax ginseng aqueous extract were not significant as compared with the control group while high-dosage groups (T4, T5 and T6) which were received (2.5 mg/mL, 5 mg/mL and 7.5 mg/mL, respectively) from Panax ginseng aqueous extract were highly decreased spermatozoa characteristics.

Keyword: Bull; Semen cryopreservation; Chilled semen; Panax ginseng; Chromatin stability