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Book of Abstracts

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REPRODUCTION, PHYSIOLOGY, ANATOMY

Oral presentations

Effects of different extenders and centrifugation/washing on postthaw microscopic-oxidative stress parameters and fertilizing ability of Angora buck sperm

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Summary

This study aimed to evaluate the effects of extender type and centrifugation/washing prior to cryopreservation on the postthaw sperm parameters, lipid peroxidation, and superoxide dismutase activity of Angora buck sperm. Ejaculates collected from three Angora bucks were used. Two consecutive ejaculates from each buck were pooled and split into equal parts in four Falcon tubes. Two tubes were diluted at 37°C and then centrifuged to remove semen plasma. After centrifugation, two sediment parts were diluted with a Tris-based extender and commercial Bioxcell extender, respectively. The remaining two parts, which were not centrifuged/washed, were diluted with the above-mentioned extenders, respectively. After thawing, the semen part with centrifugation/washing in the Bioxcell extender (BC) demonstrated a higher rate of subjective motility compared with that of groups with (TC) or without (T) centrifugation/washing in the Tris-based extender ($P<0.01$). Angora buck sperm frozen with (BC) or without (B) centrifugation/washing in the Bioxcell extender demonstrated higher percentages of motility compared with T and TC groups. The postthaw progressive motility rate was significantly greater for semen parts diluted in B compared with that of other groups. For sperm acrosome and total abnormalities, TC gave the highest values ($P<0.01$). In the group frozen in BC, the percentage of membrane integrity assessed by HOST was higher than that of the other groups ($P<0.001$). With respect to fertility results based on 35-d pregnancy rates, BC gave a higher rate than that of TC ($P<0.05$). Malondialdehyde formation was found to be lower in BC than in the other groups after the freeze-thawing process ($P<0.001$). In the semen part frozen in BC, superoxide dismutase activity was higher compared with that of the other groups ($P<0.05$). Further studies are required to obtain more precise results for the characterization of oxidative stress parameters and fertilizing ability in cryopreserved buck spermatozoa.

Key words: Antioxidant activities, cryopreservation, buck, sperm parameters