Testicular ultrasonographic monitoring and sperm freezability in Angora Bucks

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Objectives: Nowadays, ultrasonograpic (USG) monitoring of male reproductive system for breeding soundness examination has arisen. Therefore, we aim to evaluate testicular ultrasonography and its relation with sperm morphology.

Material and methods: Animals were selected with age range (older than 5 years). Usg testicular monitoring has been assessed with Vetlab5 (Esaote) for testicular degeneration index (TDI) (0-3 scale). Than after, semen was collected with artificial vagina from 3 adult Angora bucks in Experiment and practice Farm of the Ankara University Veterinary Faculty, Kazan-Turkey. Volume, pH, motility, mass activity were determined immediately. Semen was extended with tris extender, equilibrated (+5 °C/2h), loaded into 0.25 french straws, frozen in liquid nitrogen vapour (-120 °C/15 min) and stored in liquid nitrogen (-196 °C). Frozen straws were thawed in water bath (37 °C/30 s), percentages of progressive and total motility were assesed with computer assisted sperm analyzer (SCA). Sperm viability was evaluated using a nigrosin/eosin (N/E) stain to determine live/dead counts and morphology with Sperm Blue (Microptics). Acrosome integrity was assessed by fluorescent isothio-cyanate-conjugated peanut agglutinin (FITC-PNA; Sigma). Mean differences between TDI and post-thaw motility were evaluated by paired Student's t-test.

Results: The mean TDI of right and left testis was 1,6±0,5 and 2±1. The differences were statistically significant between bucks ($P<0.05$). Fresh semen parameters of volume, pH, mass activity, concentration and motility were recorded as 1,3±0,05, 6,4±0,1, 3±1, $3,65x10^9$±110 and 59,3±33,4 respectively. Frozen-thawed semen parameters: highest motility %30,9 and 26 %viability loss was recorded at buck with the highest TDI even though that sample had the highest initial motility. There were no statistical differences at acrosome integrity and morphologically normal spermatozoa rates.

Conclusions: Monitoring the TDI proved to be a valuable and objective tool for qualifying genetically important bucks for cryopreservation process as well as for monitoring the treatment. But further investigations are required and desirable to obtain more accurate results.

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