

Consequences of unilateral cryptorchidism on semen, sperm characteristics in West African Dwarf Goats

Lewis Okechi Okoro

Department of Veterinary Obstetrics and Reproductive Diseases, Faculty of Veterinary Medicine, University of Nigeria, Nigeria

Abstract

Objective: To evaluate the influence of unilateral cryptorchidism on semen and sperm characteristics in West African Dwarf (WAD) bucks. **Methods:** Semen was collected using electroejaculator from five unilaterally cryptorchid (UC) and five normal (non-cryptorchid) WAD bucks and analyzed for gross, microscopic and biochemical characteristics. **Results:** Gross semen evaluation showed no differences between the groups in semen color, viscosity and pH, whereas the normal bucks yielded semen with significantly higher specific gravity ($P=0.0436$) and volume ($P=0.0388$) than the UC group. Following semen microscopic evaluation, the percentage of sperm vitality (live sperm) was not significantly different between both groups. However, UC bucks yielded semen with significantly lower sperm motility ($P=0.0387$), sperm concentration per mL ($P=0.0020$) and total sperm count per ejaculate ($P=0.0074$). The percentage total sperm abnormality was also higher ($P<0.0001$) in the semen of UC goats. Abnormalities observed included sperm with cytoplasmic droplets, looped tails, coiled tails and tailless heads. Sperm morphology showed no differences in the sperm head length and head width between the groups. Biochemical semen evaluation did not reveal any differences between the groups in the concentration of seminal plasma total protein, catalase activity and lipid peroxidation level.

Conclusions: Unilateral cryptorchidism significantly affected the quantity and quality of semen and spermatozoa in affected WAD bucks. Due to the hereditary attribute of the condition, it is recommended that animals with this condition should not be used in breeding to forestall increasing prevalence of cryptorchidism in goats.

Biography :

Lewis has completed his DVM degree at the age of 25 years from the University of Nigeria and is currently a prospective Mphil candidate at University of Hertfordshire. He is a freelance academic writer and researcher, co-authoring more than 5 papers published in journals of repute. Lewis is passionate about research and education and works towards becoming a Professor someday.

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