



Influence of fragment size on the morphology of cryopreserved goat testicular tissue



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Introduction

The cryopreservation of testicular tissue is the main option for the creation of germplasm banks for endangered species and domestic animals of high productive value such as the goat species, which has great economic importance in several regions of Brazil, especially in the northeast region (7.6 million).

Objective

To evaluate the influence of three sizes of goat testicular tissue on the morphology after vitrification and slow freezing (*Mr. Frosty*).



Methodology

Testicles from five prepubertal males were collected by orchietomy, from each pair of testicles nine fragments ($n = 9$) were obtained and randomly distributed in three groups: 1 mm³, 5 mm³ and 9 mm³ fragments. In each group, one fragment was destined for fresh control, vitrified and another frozen, after heating and thawing these fragments were also fixed for further histological evaluation. The data were analyzed by the Kolmogorov-Smirnov normality test and the Kruskal-wallis multiple comparison test.

Results

- ❑ Basal membrane retraction was significantly higher ($p < 0.05$) in the vitrified tissue at 5 and 9 mm³ size, although slow freezing at 1 mm³ showed higher basal membrane retraction, however, this had no difference from the control ($p > 0.05$).
- ❑ The rupture of the basement membrane, organization and loss of the cells of the seminiferous tubule showed no difference between the three sizes in both slow freezing and vitrification.
- ❑ The organization of the peritubular cells vitrification showed no difference between the sizes, but the 5 mm³ slow freezing showed better results.

Conclusion

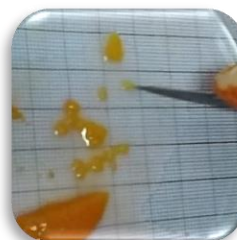
The best size to vitrify testicular tissue in pre-pubertal goats is 1 mm³ and for slow freezing, 5 mm³.



Cross section



Testicular tissue fragment



Testicular tissue fragment:
Sizes 1 mm³
5 mm³
9 mm³