

CALCIUM CHLORIDE ASSOCIATED WITH DIMETHILSULFOXIDE TO CHEMICAL STERILIZATION OF THE DOGS

Renata Cristina Alves da Silva¹, Leandro Guimarães Franco^{1,2}, Cristiane Sella Paranzini³; Fabiana Ferreira de Souza^{1,3*}

¹Veterinary Medicine, Universidade de Franca, UNIFRAN, Franca, Brazil

²School of Veterinary and Animal Science, Universidade Federal de Goiás, UFG, Goiânia, Brazil

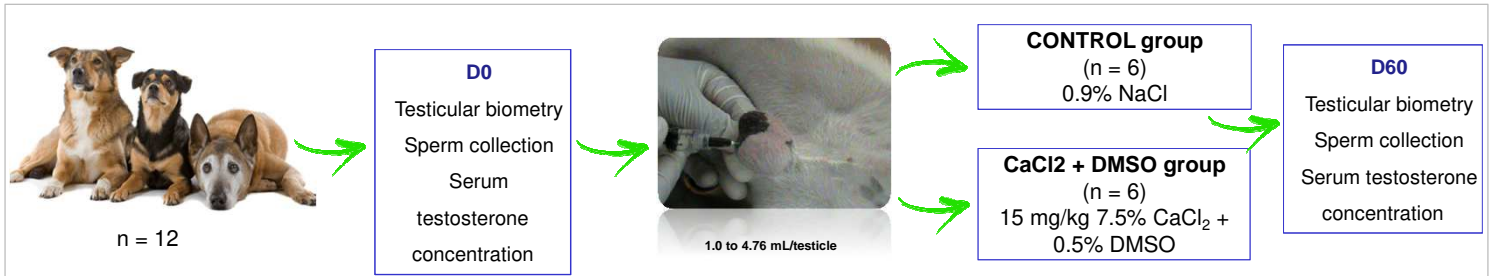
³School of Veterinary Medicine and Animal Science, Universidade Estadual Paulista "Júlio de Mesquita Filho", UNESP, Botucatu, Brazil

*Corresponding author: fabiana.f.souza@unesp.br

OBJECTIVE

The aim of the study was to evaluate the effect of calcium chloride (CaCl₂) intratesticular injection associated with dimethylsulfoxide (DMSO) as chemical castration in dogs.

MATERIAL AND METHODS



RESULTS AND DISCUSSION

No pain was noticed at testicular palpation, with the exception of one dog in the treated group. At D30, this same dog presented protective reaction to touch and ulceration in one testicle, when was possible to observe scrotal adhesion to the adjacent tissue with extensive circumscribed areas of a yellowish, caseous and friable lesion, which was later diagnosed by histology as a pre-existing mesenchymal neoplasm. Testicular volume increase was evident within the 24 h after treatment, followed by gradual reduction into 3 weeks. Five of treated dogs presented azoospermia at D15, except one that presented at D30. There was no significant difference in testosterone concentrations in the treated group during experimental period. Histological evaluation showed testicular degenerative lesions, especially at proximal and middle portion.

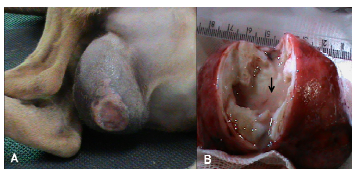


Figure 1. Scrotal ulceration in a dog testis, 30 days post-administration of CaCl₂ intratesticularly (A). Internal aspect of testis with circumscribed area, yellowish in color, cheesy and friable (arrow, B).

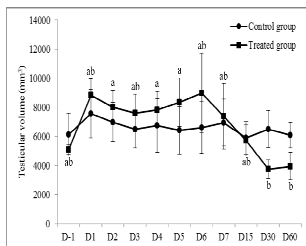


Figure 2. Mean ± standard error ($\sqrt{\frac{1}{n}}$) of testicular volume (mm³) of 11 dogs, pre and post-treatment. Different letters indicate statistical difference ($p < 0.05$).

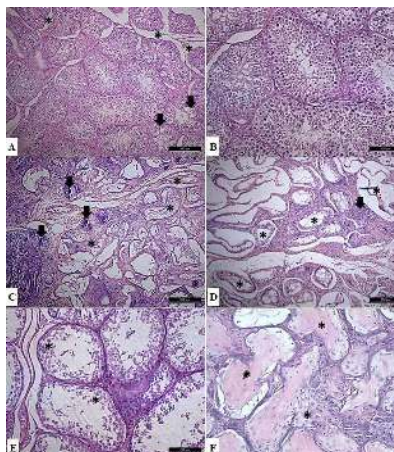


Figure 3. Dog testis photomicrographs treat with intratesticular injection. A. Saline solution (control group) - discrete edema of intertubular space (*) and focal desorganized and/or exfoliated germ cells in the seminiferous tubules (arrow), 100X, HE. B. Saline solution (control group) - Normal germ cells in the seminiferous tubules and intact interstitial tissue (*), 400X, HE. C. CaCl₂ injection (treat group) - fibrous tissue area in intratubular and interstitial space (*) and deposition of basophilic material (dystrophic calcification) in necrotic tubules (arrow), 100 X, HE. D. CaCl₂ injection (treat group) - several seminiferous tubules presented only the first cell layers or atrophied and absence of germ cells and spermatozoa in seminiferous tubules (*) and focal mononuclear cell infiltration in interstitial tissue (arrow), 100 X, HE. E. CaCl₂ injection (treat group) - disorganized and exfoliated germ cells with necrotic features, 100X, F. CaCl₂ injection (treat group) - severe fibrosis in interstitial and seminiferous tubules (*), 400x, HE.

CONCLUSION

The results indicated that one injection of 7.5% CaCl₂ associated with 0.5% DMSO into each testis, is a viable alternative for dogs' castration.