IMMUNOLOCALIZATION OF OXYTOCIN RECEPTORS (OTR) IN TESTICLE AND EPIDIDYMIDES: YOUNG VERSUS ADULT DOGS

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Introduction: Oxytocin receptor (OTR) expression may be related to spermatogenesis, sperm maturation and endocrine aspects of male reproductive system. The present study aimed to compare the immunolocalization of OTR in the testis and epididymis of young (younger than 6 months old) and adults (aged 1-4 years) dogs, as a model for the study of human.

Materials and Methods: Testes and epididymides of dogs were collected by elective orchiectomy and fixed in 10% buffered formaldehyde. Samples were then submitted to routine histological processing, deparaffinization, dehydration and recovery of antigenic sites. Incubation was then performed with primary anti-OTR human polyclonal antibody produced in rabbits and the polymer NOVOLINK (Nichirei ®).

Results and Discussion: The immunostaining was observed in myoepithelial cells, stromal smooth muscle cells and Leydig cells of the testicle; in the epididymides a much more intense immunostaining was observed in the smooth muscle cells. No differences in OTR expression was observed when comparing young and adult dogs, demonstrating that young dogs already express these receptors in the surface of these cells. Our results agree with previous studies data that suggest that oxytocin may play a role in stimulating contractility of the seminiferous tubules and epididymis. Also, oxytocin may act as a modulator of androgen levels in these tissues by stimulating the conversion of testosterone into dihydrotestosterone (DHT).

Conclusion: Our results indicate that OTR may be present in the testes and epididymides of dogs independently of age, which should be considered when studying the use of male germ cells even before puberty.

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