

Journal of Andrology, Vol 16, Issue 4 352-355, Copyright © 1995 by The American Society of Andrology

## JOURNAL ARTICLE

# Intratesticular testosterone concentration following intratunical administration in the hypogonadal animal

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The serum and intratesticular testosterone concentration (ITC) after testosterone administration in the tunica vaginalis (TV) sac compared to parenteral administration was studied in 20 dogs that were rendered hypogonadal by gonadotropin-releasing hormone antagonist ('Nal-Glu'

GnRH antagonist) in a daily dose of 80 micrograms for 15 days. The 20 dogs were divided into two equal groups. Twenty milligrams of testosterone propionate were administered in the TV cavity in the TV group and intramuscularly (IM) in the IM group. In addition four dogs acted as controls and another four as sham controls. Serum and ITC were determined in all the dogs 1, 2, and 15 days after testosterone administration. Biopsies from TV were taken 3 weeks after testosterone injection for histologic examination. Serum and ITC were significantly reduced ( $P < 0.01$ ) 15 days after GnRH antagonist. They increased after intratunical testosterone administration to reach the pre-GnRH antagonist level ( $P > 0.05$ ). After IM testosterone injection, the serum testosterone increased to the pre-GnRH antagonist level ( $P > 0.05$ ), while the ITC did not. The TV did not show histopathologic abnormalities apart from submesothelial infiltration with inflammatory cells in one dog. In conclusion, TV testosterone administration delivers a major dose of testosterone to the testicle without exposing other tissues to high testosterone levels. The method is safe and may be used as an office treatment. It may be tried in the treatment of patients who are infertile due to a low ITC.

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