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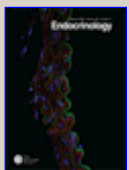
JOURNAL ARTICLE

Effects of a 5 alpha-reductase inhibitor, finasteride, on the developing prostate and testis of a marsupial

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This study examines the role of dihydrotestosterone in virilization of the developing male tammar. The onset of prostate differentiation in this marsupial species normally occurs around 25 days postpartum, long after the onset of testicular testosterone production immediately after birth and the appearance of 5 alpha-reductase in the urogenital sinus before day 10. Males treated with the 5 alpha-reductase inhibitor Finasteride had reduced prostatic growth and development, and their testicular structure was disorganized. Exogenous testosterone in males enhanced the development of prostatic buds but also caused damage to the testis structure. Treatment of female tammars with testosterone between days 20-30 postpartum stimulated prostatic tissue formation and Wolffian duct development, confirming that prostatic differentiation is initiated by androgens and occurs over a relatively narrow window of time. Testosterone had a deleterious effect on the ovary, destroying the germ cells. Although treatment with testosterone damaged gonadal cellular structure in both male and female tammar young, dihydrotestosterone is apparently necessary for stability of the seminiferous tubules in the testis. Taken together, these results suggest that dihydrotestosterone initiates prostatic development between days 20 and 25 after birth in this marsupial.

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