Journal of Andrology, Vol 6, Issue 6 353-358, Copyright © 1985 by The American Society of Andrology

JOURNAL ARTICLE

Androgens in various fluid compartments of the rat testis and epididymis after hypophysectomy and gonadotropin supplementation

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Hypophysectomized male rats were administered LH or LH + FSH for 14 days and subjected to in vivo micropuncture collection of reproductive tract fluids to determine if FSH alters the compartmentalization of testosterone in the rat testis or of 5 alpha-dihydrotestosterone (DHT) in the epididymis. Testosterone and DHT concentrations were determined in cardiac blood serum, testicular venous serum, testicular interstitial fluid, and seminiferous tubule fluid, and in intraluminal fluid and tissue extracts from the caput and cauda epididymidis. Testosterone is the predominant androgen in the testis, and compared with control values, concentrations in venous sera, interstitial fluid, and tubule fluid were returned to values indistinguishable from controls by supplementation with 24 micrograms LH/day. 24 micrograms LH + 24 micrograms FSH/day did not augment the intratubular partition of testosterone. Epididymal DHT values were returned to control levels by LH alone, but additional supplementation with FSH significantly increased DHT from the caput epididymidis even further. It is speculated that FSH does not alter the compartmentalization of androgens in the rat testis, but may play a role in retaining androgens in the epididymis.