

# Evidence for Direct Transfer of 1,2-<sup>3</sup>H Testosterone From Testicular Veins to the Rete Testis in Rats

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To investigate the origin and route of entry of testosterone into the rat rete testis, samples were drawn from the rete, deep testicular veins, testicular lymph and systemic arteries during testicular or femoral vein infusion of <sup>3</sup>H-testosterone. During infusion into the femoral vein, the level of label in the rete testis fluid (RTF) was only 50% of that in the deep testicular veins. During infusion into the testicular collecting veins at the base of the pampiniform plexus, RTF radioactivity averaged two to three times the level in the deep testicular veins. Premixing the labeled testosterone with albumen prior to infusion may reduce this difference between RTF and deep testicular venous radioactivity. The levels of RTF radioactivity during <sup>14</sup>C-urea infusion were doubled when the labeled molecule was introduced into the testicular collecting veins, in contrast to the femoral vein. However, levels of radioactivity in the RTF never exceeded those in the deep testicular veins. Following stimulation of endogenous testosterone secretion by a single dose of luteinizing hormone, testosterone concentrations in both testicular vein and RTF increased in parallel, and peaked at approximately the same time. The conclusion from this study was that a rapid exchange of testosterone can occur between the rete testis and the veins at the base of the pampiniform plexus.

Key words: spermatic vein, rete testis fluid

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