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JOURNAL ARTICLE

Monoaminergic and peptidergic contributions of the superior and the inferior spermatic nerves to the innervation of the testis in the rat

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Sections of the rat testis and whole-mounts of the testicular capsule were studied microscopically using the glyoxylic acid-induced fluorescence method, to detect monoamines, and immunohistochemical procedures for the detection of immunoreactivities to protein gene-product 9.5 (PGP 9.5), the C-terminal accompanying peptide of neuropeptide Y (CPON), and vasoactive intestinal polypeptide (VIP). Monoaminergic nerves were only observed around the intracapsular blood vessels: the initial segment of the testicular artery and the superior venous plexus, and in the anterior aspect of the upper and lower testicular poles. These capsular nerve networks were associated with the superior and inferior ligaments of the testis. Nerves displaying PGP 9.5 and CPON immunoreactivity appeared in the same sites and followed the same distribution as monoaminergic nerves. By contrast, VIP-immunoreactive fibers were only found in the nerve network of the lower pole. Observations done after different surgical denervation procedures demonstrated that the superior spermatic nerve was the source of fibers for testicular vessels and for the nerve network of the upper pole. On the other hand, fibers from the inferior spermatic nerve were restricted to the nerve network of the lower pole.

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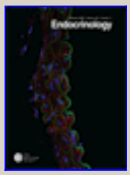

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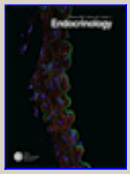

K. Ogilvie and C. Rivier
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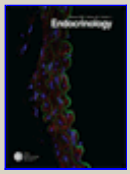

A. V. Turnbull and C. Rivier
Inhibition of Gonadotropin-Induced Testosterone Secretion by the Intracerebroventricular Injection of Interleukin-1{beta} in the Male Rat
Endocrinology, March 1, 1997; 138(3): 1008 - 1013.
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