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Author(s): D.-H. Zermann, M. Ishigooka, R. Doggweiler, J. Schubert, R.A. Schmidt

Institution, city, country: Department of Urology, Friedrich-Schiller-University, Jena, Germany; Yamagata University, Yamagata, Japan; University of Tennessee, Memphis, USA; University of Colorado, Denver, USA

Title (type in CAPITAL LETTERS, leave one blank line before the text):

**SUPRASPINAL CENTERS INNERVATING DIFFERENT PELVIC ORGANS –
DIFFERENCES IN THE NUMBER OF CENTRAL NEURONS PROJECTING TO DIFFERENT
PELVIC ORGANS AS REVEALED BY RETROGRADE TRANSNEURONAL TRACING OF
EFFERENT PATHWAYS.**

Aims of the Study: Disease in the pelvic area often involves different organs, i.e., urinary and fecal incontinence, pain and chronic “abacterial” inflammation of bladder and prostate. It is known that the Central Nervous System (CNS) plays a major role in modulating lower urinary tract function. Disturbance of peripheral and central reflex pathways are responsible for severe dysfunction and development of chronic disease in the pelvic area. Centers within the brain and brain stem modulating pelvic organ function are known. However, there are no data about differences in the number of neurons projecting to different pelvic organs. There may be differences in the number of pontine neurons projecting to the prostate and the bladder.

Methods: Adult male Sprague-Dawley rats were used for retrograde transneuronal mapping of the brain and brain stem. A pseudorabies virus (PRV) tracer (5µl, 1x10⁸pfu/ml) was injected into the bladder trigone of 32 animals and into the prostate gland of 44 animals. After 72, 96 and 120 hours post injection the animals were sacrificed and the whole CNS harvested. After immunohistochemistry a comparing analysis regarding neuron density in different areas of the brain and brain stem were carried out.

Results: There are statistically significant differences ($p < 0.05$) in the neuron density of central areas involved in innervation of the bladder trigone and prostate. The density of PRV-positive neurons after injection into bladder and prostate was found to be different within the following areas: periaqueductal gray, hypothalamus, pontine micturition center, locus coeruleus, A5 noradrenergic area and lateral reticular formation. No difference was found in the medial preoptic region, nucleus raphe and gigantocellularis.

Conclusions: There is a difference regarding the neuron number within one supraspinal area innervating different pelvic organs. Different organs receive input from same centers but there is a difference in the number of efferent cells connected to the pelvic organ.

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Author(s): M.P. Sullivan, S.V. Yalla, C.A. Peters.

Institution, city, country: Division of Urology, Boston Veterans Affairs Healthcare System, Children’s Hospital, Harvard Medical School, Boston, MA USA

Title (type in CAPITAL LETTERS, leave one blank line before the text):

ANGIOTENSIN II IN MODULATION OF BLADDER FUNCTION

AIMS OF STUDY: Neural regulation of smooth muscle function is complemented by the modulatory effects of autocrine and paracrine regulators. Angiotensin II (Ang II) has been shown to be an important autocrine regulator in many smooth muscle systems. Although the presence of Ang II has been demonstrated in the bladder, its role in the regulation of bladder smooth muscle function remains unclear. The purpose of this study was to localize AngII in bladder tissue and determine whether Ang II modulates the regulation of bladder tone and contractility.