## <u>Clinical and basic study of acupuncture for lower urinary tract symptoms in</u> Japan

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Clinical and basic investigations on acupuncture for lower urinary tract symptoms have been conducted worldwide. In a previous clinical study, we applied acupuncture to the sacral area (bilateral BL-33 points) in 11 patients suffering from overactive bladder syndrome with symptoms of frequency, urgency, and urge incontinence, and found an improvement of symptoms in 9 of 11 patients (82%). In the study, the treatment induced an increase of maximum cystometric bladder capacity with statistical significance (Kitakoji, 1995). Acupuncture on the BL-33 points has also been reported to inhibit detrusor hyperreflexia in patients with spinal cord injuries, and nocturnal enuresis was improved in 46% (6/13) of patients just after treatment and 54% (7/13) of patients after 2 months (Honjo, 2000). Based on these results, it is conceivable that a beneficial treatment effect of acupuncture for nocturnal enuresis could be obtained through increase of nocturnal bladder capacity (Honjo, 2002).

In an experimental study on anesthetized rats, Sato et al. reported that acupuncture-like stimulation on the perineum inhibited bladder contractions. The mechanisms of acupuncture stimulation are explained by the suppression of spinal reflexes leading to bladder contractions (Sato, 1992). The effects of acupunctural stimulation to the sacral segment on urinary bladder activity and cortical electroencephalograms (EEG) were examined using anaesthetized rats. Acupuncture was able to suppress urinary bladder activity and in many occurrences the suppression was accompanied by an increase in EEG amplitude (Tanaka, 2002).

Acupuncture has frequently been used as an alternative to conventional therapies for lower urinary tract symptoms, but it has not achieved widespread acceptance and lacks scientific support. Further studies using a larger number of patients in a randomized, placebo controlled trial are needed to clarify the effects of acupuncture treatment on lower urinary tract symptoms. Additionally, the basic mechanism of acupuncture remains unknown and further studies are necessary to examine the detailed mechanism of acupuncture stimulation.

Keywords: lower urinary tract symptoms (LUTS), overactive bladder (OAB), voiding dysfunction, acupuncture