

Female Urology (II)

Moderated Poster

Tuesday, May 23, 2006 10:00 am - 12:00 pm

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EFFECT OF ST. JOHN'S WORT FORMULATION DP015 AGAINST ACETIC ACID INDUCED BLADDER PAIN RESPONSES IN RATS

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Introduction and Objective: Central neural control of lower urinary tract function at the spinal cord level is believed to rely on the activity of pudendal somatic motor nucleus innervated by serotonin and norepinephrine emitting neurons. Pharmacological studies have confirmed central modulation of the lower urinary tract activity is possible with agonists or antagonists of serotonin and norepinephrine. Besides, symptoms of interstitial cystitis are often managed by tricyclic antidepressants in clinic. Given this knowledge, it is justified to examine the effect of herbal drugs such as St. John's wort (SJW) capable of blocking neurotransmitter reuptake. A prior study demonstrated inhibitory effect of SJW on isolated bladder strip to prompted its *in vivo* evaluation. We tested the efficacy of DP015 (formulation of SJW supplied by Delithe Natural Products) on rat model of bladder hyperactivity. **Methods:** Female Sprague-dawley rats (240-260gm) were used for performing continuous cystometrograms under urethane anesthesia by filling the bladder (0.04 ml per minute) with saline, followed by 0.125% acetic acid. DP015 was injected intraperitoneally at the dose of 10mg/kg one hour prior to infusion of acetic acid. DP015 was prepared from SJW using supercritical carbon dioxide as a eluent and vehicle used for its injection was cremophor in saline. Control rats were injected with vehicle alone. **Results:** The intercontraction interval was decreased after intravesical instillation of acetic acid ($83.5 \pm 5.5\%$ decrease, $n=6$) in control groups injected with vehicle alone without any drug. However, rats injected with DP015 SSRI showed a significantly decreased response (intercontraction interval decrease of $34.6 \pm 11.1\%$, $n=6$) to acetic acid instillation ($p<0.005$). **Conclusions:** Acute administration of DP015 can suppress nociceptive responses induced by bladder irritation. Our results support the use of DP015 as supplement in patients with painful bladder syndrom/interstitial cystitis and other types of visceral pain.

Source of Funding: None