

Int J Physiol Pathophysiol Pharmacol 2010;3(1):29-37.

Original Article

Gastrodia elata decreases isoprenaline potency and enhances spontaneous phasic activity in the rat detrusor

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Received October 22, 2010; accepted November 1, 2010; Epub November 5, 2010; Published January 1, 2011

Abstract: Gastrodia elata (Tianma) is a traditional Chinese herb with demonstrated vasodilatory effects. This pilot study examined the effects of Tianma treatment on bladder smooth muscle contractility. Rats were treated with 2.5 g Tianma per kg bodyweight over 7 weeks. Contractility was measured in detrusor strips isolated in both transverse (Tr) and longitudinal (Lg) directions with the urothelium intact (+UE) or denuded (-UE). Spontaneous phasic activity was enhanced in longitudinal +UE strips. No differences between control and Tianma-treated detrusor strips were detected in contractions elicited by K⁺-Krebs' solution or carbachol. Isoprenaline (IPNA)-induced relaxation remained unchanged in -UE strips after Tianma treatment. However, potency of IPNA was lower in Tianma-treated +UE strips in the longitudinal direction. These findings provided an initial assessment of how Tianma altered bladder smooth muscle function. It will be of interest in future investigations to elucidate the mechanisms via which Tianma exerts its actions on the bladder. (JPPPP1010001).

Key words: Gastrodia elata, Tianma, detrusor, urothelium, contraction, relaxation, phasic activity

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