Pharmacological effects of saw palmetto extract in the lower urinary tract

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Abstract

Saw palmetto extract (SPE), an extract from the ripe berries of the American dwarf palm, has been widely used as a therapeutic remedy for urinary dysfunction due to benign prostatic hyperplasia (BPH) in Europe. Numerous mechanisms of action have been proposed for SPE, including the inhibition of 5alpha-reductase. Today, alpha(1)-adrenoceptor antagonists and muscarinic cholinoceptor antagonists are commonly used in the treatment of men with voiding symptoms secondary to BPH. The improvement of voiding symptoms in patients taking SPE may arise from its binding to pharmacologically relevant receptors in the lower urinary tract, such as alpha(1)-adrenoceptors, muscarinic cholinoceptors, 1,4-dihydropyridine receptors and vanilloid receptors. Furthermore, oral administration of SPE has been shown to attenuate the up-regulation of alpha(1)-adrenoceptors in the rat prostate induced by testosterone. Thus, SPE at clinically relevant doses may exert a direct effect on the pharmacological receptors in the lower urinary tract, thereby improving urinary dysfunction in patients with BPH and an overactive bladder. SPE does not have interactions with co-administered drugs or serious adverse events in blood biochemical parameters, suggestive of its relative safety, even with long-term intake. Clinical trials (placebo-controlled and active-controlled trials) of SPE conducted in men with BPH were also reviewed. This review should contribute to the understanding of the pharmacological effects of SPE in the treatment of patients with BPH and associated lower urinary tract symptoms (LUTS).