Effects of Cernitin ™ pollen extract (CN-009) on the isolated bladder smooth muscles and the intravesical pressure

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Cernitin ™ pollen extract (CN-009), extract from several pollen species, has been used for urinary dysfunction. As its mode of action has not been clarified, we investigated the action of CN-009 on the isolated bladder smooth muscles of rats, guinea pigs and cats and the intravesical pressure in female rats. CN-009 contracted isolated detrusor muscles of rats, guinea pigs and cats in a concentration-dependent manner. In the guinea pig detrusor muscle, the contractile effect of CN-009 was depressed by atropine, diphenhydramine and increased by cimetidine. In the rat detrusor muscle, the CN-009-induced contraction was depressed by atropine. In adult rats (11-23 weeks old) and aged rats (2 years old), CN-009 showed a dose-dependent increase of intravesical pressure to the same extent in spite of the fact that the aged rats had a lower responsiveness to acetylcholine. In adult rats, the CN-009-induced increase of intravesical pressure was reduced completely by atropine and partly reduced by phentolamine and guanethidine. Three weeks consecutive oral administration of CN-009 tended to increase the basal intravesical pressure and tended to elevate the isoproterenol-induced decrease and serotonin-induced increase in the intravesical pressure. These results suggest that CN-009 contracts the detrusor muscle, a process that is mainly mediated by muscarinic receptor activation. The contraction induced by CN-009 of detrusor muscle causes the increase of intravesical pressure.

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