RUBUS COREANUS MIQUEL IMPROVES COGNITIVE FUNCTION IN MEMORY IMPAIRED MICE

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Rubus coreanus Miquel (RCM) is widely known as Bokbunja in South Korea and used in traditional medicines for treating enuresis, asthma and allergic diseases. In the present study, we investigated the effect of RCM on cognitive function in scopolamine-induced amnesia mice and senescence-accelerated mice. In order to determine whether RCM improves memory impairment regarding amnesia, four-week-old male ICR mice were fed a diet containing 100 mg/kg body weight/day RCM for 4 weeks. In order to induce amnesia, scopolamine (an antagonist of muscarinic acetylcholine receptor, 1 mg/kg body weight) was intraperitoneally injected into mice 30 minutes before starting the behavior tests. RCM reversed the scopolamine-induced memory impairments in mice as determined by the passive avoidance test as well as the Morris water maze test. Acetylcholinesterase (AchE) activities were decreased within the cerebral cortex of mice fed with RCM. To examine the effect of RCM on aging-induced memory impairment, twenty eight-week-old male senescence-accelerated prone 8 (SAMP8) mice were fed a diet containing 100 mg/kg body weight/day RCM for 8 weeks. SAMP8 mice treated with RCM performed significantly better in the passive avoidance test and Morris water maze test compared to the untreated mice. Hippocampal AchE activities were lower in SAMP8 mice fed with RCM. These results suggest that RCM may exert memory improving properties via inhibition of AchE in cognitive impaired mice.