

Neuroprotective effect of crocin on forebrain ischemia in rats.

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Gardeniae Fructus has been medically used for anti-inflammation and .some disorders of the central nervous system in Chinese traditional medicine. crocin is an extract component of *Gardeniae Fructus*. The antioxidant activity of crocin which has been used for food coloring was studied.

We hypothesized this effect of central nervous system has relation with the effects of curing stroke.. To investigate neuroprotective effects of crocin on global cerebral ischemia induced by 4-vessel occlusion in wister rats. Transient forebrain ischemia induced delayed neuronal death in the hippocampal CA1 area. It has been known that oxygen free radicals are increased immediately after ischemia - reperfusion and play a pivotal role in neuronal cell death. The number CA1 pyramidal neurons were counted 7 days of reperfusion under the cresyl violet staining . The result showed significant protective effects of crocin compared with control group which was administrated 10mg/kg of crocin.. Immunohistochemistry for Mn-SOD and glutathione peroxidase(GPX) showed strongly express in the hippocampus of ischemic wister treated with crocin. Mn-SOD expression was transiently increased in the hippocampal CA1 area 1 day after ischemia-reperfusion. Whereas GPX was expressed at days 3. In conclusion, Mn-SOD, GPX overexpression prevent early neuronal cell death after transient global cerebral ischemia.