

Neuroprotective Effects of Medicinal Herbs in the Transient Focal Ischemia

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It is thought that highly reactive oxygen radicals generated at the ischemia-reperfusion in case of strokes play an important role in damaging the brain. We examined the neuroprotective effects from the several medicinal herbs in the transient ischemic rat model and compared their effects with the free radical scavenging activities. Transient ischemia was induced by intraluminal occlusion of the right middle cerebral artery for 120 min and reperfusion was continued for 22 h in rats. The free radical scavenging properties of medicinal herbs were examined in vitro by determination of the interaction with the 1,1-diphenyl-2-picrylhydrazyl (DPPH) stable free radical. Aqueous extracts of 11 medicinal herbs (200 mg/kg) were orally administered, promptly prior to reperfusion and 2 h after reperfusion. Total infarction volume in the ipsilateral hemisphere of ischemia reperfusion rats was significantly lowered by the treatment of 7 medicinal herbs (*Sophora flavescens*, *Lycopus lucidus*, *Sanguisorba officinalis*, *Caesalpinia sappan*, *Albizia julibrissin*, *Rubia akane*, *Psoralea corylifolia*, *Prunella vulgaris*). However, all of these medicinal herbs did not show antioxidative activities. These results suggest that neuroprotective effects of several drugs are not always correlated with their antioxidative properties.