

Neuroprotective effects of paeoniflorin: an emerging concept in neurology

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Folia Neuropathol 2013; 51 (1): 92

DOI: 10.5114/fn.2013.34201

Sun *et al.* have provided interesting data in their recent article in your esteemed journal [5]. Paeoniflorin exerts a number of neuroprotective effects in a wide range of neurological disorders.

Paeoniflorin attenuates neuronal ischemia – reperfusion injury. Neurological deficit scores as well as cerebral infarction size are markedly attenuated [6]. It also reduces inflammation in the infarcted area as is evident by its attenuating effect on ICAM-1 and TNF-alpha. It also prevents chronic cognitive changes by down-regulating the expression of NF-kappa B in the hippocampal astrocytes [3]. Similar protective effects are seen in steroid induced injured neurons. It up-regulates Bcl-2 expression while down-regulating Bax expression within the neuronal cells [4]. It also increases neurotrophic factor levels.

Paeoniflorin also decreases the effects and extent of febrile seizures. It mediates this effect by decreasing the elevation of intracellular ionized calcium secondary to glutamate induced changes. It also mitigates intra- neuronal mGluR5 induced elevation of ionized calcium [2]. Paeoniflorin is also of clinical benefit in mitigating the effects of Parkinson's disease. It mediates this effect by altering neuronal autophagy. It reduces the influx of ionized calcium within the neuronal cells. Besides this, it increases the expression of LC3- II and down-regulates LAMP2a expression in cerebral tissue [1].

The above examples clearly illustrate the neuroprotective effects of paeoniflorin.

References

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