

Baicalein

Baicalein is a flavonoid that has been shown to offer neuroprotection in kinds of brain injury models. A study investigated the effects of baicalein on early brain injury (EBI) in rats following SAH. SAH was induced in male Sprague-Dawley rats by injection of fresh non-heparinized arterial blood into the prechiasmatic cistern. Baicalein (30 or 100mg/kg) or vehicle were administrated 30min after injury. Neurological deficit, brain edema, blood-brain barrier (BBB) permeability and neural cell apoptosis were assessed. To explore the further mechanisms, the change of toll like receptor 4 (TLR4) and nuclear factor- κ B (NF- κ B) signaling pathway and the levels of apoptosis associated proteins were also examined. Our study showed that treatment with baicalein (30mg/kg) significantly improved neurological function at 24h after SAH and reduced brain edema at both 24h and 72h after SAH. Baicalein also significantly reduced neural cell death, BBB permeability. These changes were associated with the remarkable reductions of TLR4 expression, I κ B- α degradation, NF- κ B translocation to nucleus, as well as the expressions of matrix metalloproteinase-9, tight junctions protein, interleukin-1 β and tumor necrosis factor- α . These findings suggest that baicalein may ameliorate EBI after SAH potentially via inhibition of inflammation-related pathway ¹⁾.

Findings suggest that baicalein prevents cisplatin-induced apoptosis through inhibition of the mitochondrial depolarization in human glioma cells ²⁾.

¹⁾

Wang CX, Xie GB, Zhou CH, Zhang XS, Li T, Xu JG, Li N, Ding K, Hang CH, Shi JX, Zhou ML. Baicalein alleviates early brain injury after experimental subarachnoid hemorrhage in rats: Possible involvement of TLR4/NF- κ B-mediated inflammatory pathway. *Brain Res.* 2015 Jan 12;1594:245-55. doi: 10.1016/j.brainres.2014.10.014. Epub 2014 Oct 17. PubMed PMID: 25451085.

²⁾

Lee SW, Song GS, Kwon CH, Kim YK. Beneficial effect of flavonoid baicalein in cisplatin-induced cell death of human glioma cells. *Neurosci Lett.* 2005 Jul 1-8;382(1-2):71-5. Epub 2005 Mar 21. PubMed PMID: 15911124.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

<https://neurosurgerywiki.com/wiki/doku.php?id=baicalein>

Last update: **2024/06/07 02:53**

