Aloe vera

The purpose of a study was to evaluate the possible protective/therapeutic effects of aloe vera (AV) on ischemia-reperfusion injury (I/R) of spinal cord in rats.

A total of 28 Wistar Albino rats were divided into four random groups of equal number (n = 7). Group I (control) had no medication or surgery; Group II underwent spinal cord ischemia and was given no medication; Group III was administered AV by gastric gavage for 30 days as pre-treatment; Group IV was administered single dose intraperitoneal methylprednisolone (MP) after the ischemia. Nuclear respiratory factor-1 (NRF1), malondialdehyde (MDA) and superoxide dismutase (SOD) levels were evaluated. Tissue samples were examined histopathologically and neuronal nitric oxide synthase (nNOS) and nuclear factor-kappa B (NF-κB) protein expressions were assessed by immunohistochemical staining.

NRF1 and SOD levels of ischemia group were found to be lower compared to the other groups. MDA levels significantly increased after I/R. Treatment with AV and MP resulted in reduced MDA levels and also alleviated hemorrhage, edema, inflammatory cell migration and neurons were partially protected from ischemic injury. When AV treatment was compared with MP, there was no statistical difference between them in terms of reduction of neuronal damage. I/R injury increased NF-κB and nNOS expressions. AV and MP treatments decreased NF-κB and nNOS expressions.

It was observed that aloe vera attenuated neuronal damage histopathologically and biochemically as pretreatment. Further studies may provide more evidence to determine the additional role of aloe vera in spinal cord ischemia reperfusion injury [1)].

1)
Yuksel Y, Guven M, Kaymaz B, Sehitoglu MH, Aras AB, Akman T, Tosun M, Cosar M. Effects of Aloe Vera on Spinal Cord Ischemia-Reperfusion Injury of Rats. J Invest Surg. 2016 May 4:1-10. [Epub ahead of print] PubMed PMID: 27142763.