

Title : Effect of certain trimethoxy flavones on paclitaxel - induced peripheral neuropathy in mice

Abstract

Background

The anti - nociceptive effect of 7, 2', 3' – trimethoxy flavone, 7, 2', 4' – trimethoxy flavone, 7, 3', 4' – trimethoxy flavone and 7, 5, 4' – trimethoxy flavone against inflammatory, neurogenic and thermal pain in mice was reported earlier. The present study was designed to investigate the effect of the above trimethoxy flavones in amelioration of peripheral neuropathy induced by paclitaxel.

Methods : Peripheral neuropathy was induced in mice by administration of a single i.p. dose (10 mg/kg) of paclitaxel. The manifestations of peripheral neuropathy such as tactile allodynia, cold allodynia and thermal hyperalgesia were assessed 24 h later by employing hair aesthesiometer test, acetone bubble test and hot water tail immersion test respectively. Further, the role of inflammatory cytokines like TNF – α , IL - 1 β and free radicals in the action of trimethoxy flavones was investigated using *in vitro* assays.

Results: The test compounds dose dependently attenuated paclitaxel - induced tactile allodynia, cold allodynia and thermal hyperalgesia in mice. The test compounds inhibited TNF – α , IL - 1 β and free radicals in a concentration dependent manner.

Conclusion : The investigated trimethoxy flavones attenuated paclitaxel – induced peripheral neuropathy in mice. The inhibition of cytokines and free radicals in addition to many neuronal mechanisms reported earlier may contribute to this beneficial effect.

Keywords: Peripheral neuropathy, Trimethoxy flavones, Cytokines, Free radicals

For more details : <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6026363/>