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The effect of hydro-alcoholic extract of Curcuma longa on pain and Pentylenetetrazol induced seizure mice

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Background and Objective: Pain is an abrasive sense. Considering that there is no proper treatment for pain and epilepsy, while chemical drugs have adverse effects, we decided to study the effect of the Curcuma longa on pain and seizure.
Materials and Methods: Forty-five NMRI male mice were randomly allocated to 5 groups, Control, positive control and three groups under treatment with curcuma longa extract (25, 50 and 100 mg/kg). Formalin and Tail immersion tests were used to measure pain volume and for kindling we used PTZ-induced seizure mice.
Result: Curcumin extract in all doses (25, 50 & 100 mg/kg) effectively reduced acute pain in Formalin test. Obtained data from tail immersion test showed that all doses were effective to reducing acute pain in 5 and 10 min after extract injection. However, Curcuma extract at all doses and especially at 50 mg/kg could reduce onset seizure time in PTZ kindling test.
Conclusion: Our data showed that all doses of Curcumin extract can reduce acute pain. Also anticonvulsant activity of the extract was shown at dose of 50 mg/kg.
Keywords: Pain, Seizure, Mice, Curcumin

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Tauopathy in spinal cord injury: a systematic review

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Objective: Spinal cord injury (SCI) is one of the major causes of death and disabilities among all traumas. Many CNS biomarkers are being evaluated for their potential to assess the severity of SCI. The ideal biomarker would be a molecular marker specific for injured nervous tissue that would provide a reliable assessment of the presence and severity of injury. Tau, a microtubule-associated protein abundant in the axonal compartment of neurons, is candidate biomarker. Following axonal injury, tau becomes modified primarily by hyperphosphorylation and cleavage into smaller fragments. These posttrauma products can leak into the CSF or bloodstream. We focused on the potential for hyperphosphorylated and cleaved tau as sensitive biomarkers of injury.
Methods: This study aims to systematically review the literature on publications that have investigated prognostic biomarkers in either the blood or CSF of animals and humans following SCI.
Results: The PubMed search identified 123 publications, of which 20 were selected and critically reviewed.
Conclusion: Few studies have aimed at the discovery of biomarkers within the CSF or blood in this field. Several studies using various animal models and some with small human patient cohorts have begun to pinpoint biomarkers in the CSF and blood with putative prognostic value. Increased sample size will be required to validate these biomarkers. Posttraumatic tau products, such as c-tau and p-tau are attractive candidates as SCI biomarkers, and future research should focus on the potential of these tau products to serve as biomarkers for SCI.
Keywords: Tau, Biomarker, Spinal cord injury, Systematic review