Hepatoprotective potential of liverem – a polyherbal formulation on paracetamol - induced mitochondrial damage in rats.

Rizwana Begum S.
Department of Biochemistry, Justice Basher Ahmed Sayeed College for Women, Chennai, India.

From International Conference on Biosciences- Trends in Molecular Medicine.
Post Graduate Department of Biochemistry, Dwaraka Doss Goverdhan Doss Vaishnav College, Arumbakkam, Chennai 600 106, India. 7-8 February 2012.
American J of Bio-pharm Biochem and Life Sci. 2012 March, Vol. 1 (Suppl 1): A38

ABSTRACT

Today burden on the liver is heavier than ever before in history due to alcohol, prescription drugs, nutritional deficiencies and imbalances. Overburdened and undernourished liver can be the root cause of many diseases. Paracetamol (acetaminophen) is an effective analgesic/ antipyretic drug when used at therapeutic doses. However, overdose of paracetamol can cause severe liver injury and necrosis. As herbs play an important role in the management of liver disorders, there is a significant need to evaluate the hepatoprotective potential of polyherbal formulations. Mitochondrial damage is a major mechanism of paracetamol-induced liver injury. Oxidative stress in mitochondria triggers mitochondrial membrane rapture due to mitochondrial permeability transition. This can severely deplete ATP and cause liver cell necrosis.Present study attempted to evaluate the hepatoprotective potential of Liverem on paracetamol-induced acute liver injury. Hepatotoxicity was induced by administering a single oral dose of paracetamol (750 mg/kg). Pretreatment with “LIVEREM”a commercial polyherbal formulation (50 mg/kg bodyweight orally for 15 days) offered significant protection against paracetamol-induced hepatotoxicity as assessed in terms of biochemical, histological and antioxidant parameters and the levels of calcium and ATP in mitochondria of liver of experimental animals. This protective efficacy of Liverem could be due to the presence of *Picrorhiza kurroa* and other herbs present in it.

Published: 1 March 2012.