Abstract

Oxidative stress is an imbalance between pro-oxidants and antioxidants produce by several factors, one of this factors is methionine, which is an acid amino substance that enter in the structure of proteins and enzymes. Their metabolism takes place in the liver to form homocysteine.

Homocysteine is a sulfur amino acid precursor of cystathionine to cysteine, an ami no acid that enters in the formation of glutathione, proteins and enzymes.

Our results show that administrating 200 mg/kg of live weight of methionine for 21 days leads to decrease of the relative weight of the liver, the hepatic reduced Glutathione (GSH) content, and the activity of Glutathione peroxidase, with an increase of the enzymatic activity of transaminases (TGO, TGP), alkaline phosphatase (PAL), of glutathione s-transferase and catalase.

These defects and damage are the consequences of an overdose of methionine which blocks the pathway of the remethilation as well as the transsulfuration and this block of two metabolic pathways cause a hyperhomocysteinemia, prooxidant factor, leads to necrosis and hepatic cytolysis.

The protective and antioxidant effect of Salvia officinalis in the prevention of stress induced by methionine in male mice after introducing a treatment with 100 mg/kg of body weight for 21 days and which shows an improvement of the blood and tissue (liver tissue) parameters which meant that this plant prevented and saved liver damage .

Key words: stress oxidative, antioxidant, methionine, salvia officinalis, and alteration.