Iron oxide nanoparticles are the most common iron-based compounds in nature, implicated in many human diseases related to oxidative stress. This study focused on examining the protective effect of diféruloyl-methane against the toxicity of iron oxide nanoparticles on some biochemical parameters and antioxidant factors in wister rats blood and liver, strain are divided into 4 groups, in each of which the mice. The first group remained a witness and received a normal diet, the second was exposed to 10mg/kg/day of iron oxide nanoparticles, the third group received 10mg/kg/day of iron oxide nanoparticles and 20mg/kg/day of diferuloyl-methane, the fourth received a diferuloyl-methane 20mg/kg/day diet as long as the experimental study lasted 28 days.

Exposure of rats to nanoparticles of iron oxide affected their growth rate. The results reveal a metabolic disorder in terms of biochemical indicators (carbohydrates, proteins, lipids), an increase in enzymatic activity of the enzymes (TGO, TGP) This indicates a disorder of the liver function.

Our results also revealed toxicity and oxidative stress in rats contaminated with iron oxide nanoparticles, resulting in a severe decrease in GSH and GPx enzyme activity with an increase in MDA levels in liver.

Diferuloyl-methane supplementation restored liver function, and lipid profile. The attenuation of the parameters of the antioxidant status is demonstrated after the association with diferuloyl-methane.

We conclude from the results of this study that diferuloyl-methane can reduce the toxicity induced by nanoparticles of iron oxide. Diferuloyl-methane supplementation could be a simple, inexpensive and useful method to protect anyone exposed to nanoparticles of iron oxide from its toxic effects at the workplace.

Key words: nanoparticles of iron oxide, diféruloyl-methane, oxidative stress, toxicity, Wistar rats.