

ABSTRACT

Synthetic drugs offer several advanced features and treat various illnesses, but their unusual side effects limit their use. In contrast many ailments are addressed with herbal remedies in Ayurvedic texts. In our study, we divided forty-four male Swiss albino mice into nine groups to evaluate efficacy of *Ehretia laevis* hererbl extract treatments. Group 1 (control group) was maintained under normal conditions throughout the experiment. Group 2 was treated with only five doses of iron supplement after every other day before being sacrificed for histological and serum ferritin serum iron and serum enzymes level analysis. Group 3 was treated with doses of standard synthetic drug of desirox. The other groups from group 4 to group 6 received varying doses of *Ehretia laevis* extract orally for consecutive 21 days. Last three groups from group 7 to group 9 were treated with the varying combined doses of *Ehretia laevis* extract and standard synthetic drug of desirox orally for consecutive 21 days. Several parameters were assessed after the completion of treatments using three different tests: serum ferritin test, serum iron test and serum enzymes namely ALT, AST and ALP testing and analysis of weight of treated and control group mice. Compared to the serum iron level of 209 ug/ml in mice treated only with 5 doses of iron supplement (Bisleri capsules), Serum iron level of blood in all the mice from treated groups decreased to a significant level. Compared to the serum ferritin level of 101 ug/ml in mice treated only with 5 doses of iron supplement, after the administration of doses, serum ferritin level of blood in all the mice from treated groups increased to some level. ALT, AST and ALP level in the mice from the treated groups showed significant rise. Arguably, these enzymes were mainly produced in response to some injury or stress in liver due to the iron accumulation in liver. Upon completion of the experiment, the mice were dissected for the collection of brain, kidney and liver organs for further histological analysis. Histological examination of liver and kidney organs revealed the damaging effects of iron overload; in contrast histology of liver and kidney from the control group mice remains intact. In this study, histological examination of hippocampal region of brain showed no notable effects of iron overload on the hippocampus of brain.