Abstract
Iron overload and auto-oxidation of unpaired globin chains is the main cause of oxidative stress in thalassemia. We aimed to show the additive antioxidant effect of capparis ?? and deferasirox in thalassemic patients. A total number of 40 thalassemia major patient aged between 7-30 years, who have been taken regular red cell 15 cc/kg/month to maintain Hb >10 gr/dl) and chelation (30 mg/kg/day ICL-670) for one year are involved. They were divided into two groups as control and study group randomly. Both study and control groups were followed by regular transfusion and chelation therapy. In addition study group has been taken capparis marmalade at the breakfast with a dose of a dessert-spoon (12.5 gr) younger than 10 years and a soup-spoon (25 gr) older than 10 years for 6 months. Hematological and biochemical parameters, ferritin at every month and oxidative-antioxidant status (MDA, CAT, Gpx, SOD) were measured at the beginning and at the end of the study. Serum ferritin and MDA levels declined significantly in both groups (for ferritin; control group p=0.00; study group p=0.00) during the study but a much more decrease occured at MDA levels in the capparis given group (p=0.02). There was no statistically significant difference between the groups at the initial and last SOD CAT, GPX, SOD levels. Further more in the study group a significant decrease in liver function tests has been occured (AST p= 0.05, ALT p= 0.01). The high levels of MDA in iron overloaded thalassemic patients is the best marker of oxidative stres. Generally decreased iron burden was associated with decreased oxidant damage. In vitro it was shown that iron chelators such as deferoxamine and deferipron neutrolyse intraselluler free iron and inhibits oxidation. Our findings suggest that combination of capparis with deferasirox maybe have additive effect on decreasing the oxidative damage and hepatotoxicity.