Objectives: (a) To determine the effect of regular desferroxamine (DFO) therapy on De-Ritis ratio. (b) To determine the changes in some liver function test parameters between patient on regular DFO and those with irregular DFO therapy. (c) To determine the relation between serum iron and serum ferritin in both groups. (d) To determine the effects of age, sex and body mass index (BMI) on measured parameters in both groups.

Subjects and Methods: This study was conducted at Thalassemia Center /Ibn-Al-Atheer Pediatric Hospital in Mosul from October 2007 to April 2008. Forty patients with β-Thalassemia were selected as follow: twenty patients with regular DFO therapy and other twenty with irregular DFO therapy.

Results: De-Ritis ratio serum Ferritin, Ferritin: total serum protein ratio and total serum protein show no significant changes between both groups. Serum ALT, AST, ALP activities and serum iron show a significant increase in those with irregular DFO therapy \(P < 0.01\).

Conclusion: Irregular DFO therapy shows significant effects on serum iron and some other liver function test parameters that indicate chronic hepatocytes damage without changes in De-Ritis ratio which is used as an indicator for acute hepatocytes damage.