

The thalassaemia syndromes are characterized by an inherited defect in the synthesis of one or more of the peptide chains of haemoglobin^[4]. The biochemical changes especially of the trace elements such as Cu, Zn and Mg had been investigated. Many clinicians had noticed growth retardation^[5-7], various retinal abnormalities^[6,8] and different abnormalities in the RBC of thalassaemic patients^[9], which were attributed to alteration in the level of these trace elements. Therefore, trace elements had been critically examined in the follow up and treatment of patients with B thalassaemia.

Aims of the study

1. Assess the level of Cu, Zn and Mg in the blood of thalassaemia major and minor and compare it with control level.
2. Evaluate the change in different haematological parameters including Hb, PCV, MCV, MCH, MCHC and serum ferritin in B thalassaemia major and minor and compare it with control values.

Materials and Methods

This study was conducted on 72 patients with B thalassaemia major and 17 patients with B thalassaemia minor who were attended Ibn Al-Balady hospital from 2002-

2003 along with 30 healthy age matched control subjects table 1.

All those patients were previously diagnosed as having thalassaemia by clinical, family history, hematological and electrophoresis study.

Blood samples collected from the patients before blood transfusion, in an EDTA tube and in plain tube. Serum Cu, Zn and Mg were estimated by Atomic Absorption Spectrophotometer, Perkin Elmer, model 103, serum ferritin was estimated by Immunotech Kit, using Automatic Gamma Counter (Wallac-Wizard). Other haematological parameters, Hb, PCV, MCV, MCH and MCHC were estimated by multichannel analyser, Coulter S Plus.

All data were analyzed by unpaired student t-test and by linear regression test, taking $p < 0.05$ as the lowest limit of significant.

Results

This study was performed on 72 patients with thalassaemia major, 17 patients with thalassaemia minor, and 30 healthy age matched control subjects, table 1.

Table 1: The demographic characters of the patients and control subjects enrolled in this study

Parameters	Study Groups		
	Thalassaemia major	Thalassaemia minor	Control
Number	72	17	30
Age (years)	4-29	20-33	4-30
Sex (female/male)	20/52	9/5	11/19