Republic of Yemen
Sana'a University
Postgraduate Studies and Scientific Research
Faculty of Medicine and Health Sciences
Department of Biochemistry and Molecular Biology

Prevalence of Endocrinopathies among Yemeni Patients with β-Thalassemia Major

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By

Jameela Mohemmed Al-qubati

(BSc. Laboratory Medicine)

Supervisor

Dr. Walid Ahmed Al-Dubai

Professor of biochemistry
Department of Biochemistry
Faculty of Medicine and Health Sciences

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Abstract

Background: β thalassemia major (β-TM) is the most common inherited genetic disorder worldwide, resulting from reduced or absent beta globin synthesis, leading to a globin chain imbalance. Patients with β-TM are at risk of iron overload, which leads to various forms of tissue damage, including endocrinopathies. The aim of this study was to estimate the prevalence of endocrinopathies among Yemeni patients with β-thalassemia major.

Method: This descriptive cross-sectional study was conducted on 109 Yemeni participants (61 meles and 48 females) aged 4-20 years, who were registered in Yemen Society for Thalassemia and Genetic Blood Disorder in the period from June to September 2023. Data about sex, age, BMI and times of blood transfusion were collected using a questionnaire. Venous blood samples were collected and investigated for complete blood count, TSH, T_4, LH, FSH, IGF-1, RBS and Ferritin.

Result: This study revealed that 83.3% of the β-thalassemia major patients suffered from at least one endocrinopathy. The most prevalent endocrine complications were short stature (70.6%), low IGF-1 levels (57.7%), subclinical hypothyroidism (9.1%), primary hypothyroidism (1.8%), and type 2 diabetes mellitus (1.8%). Ferritin levels showed a positive correlation with age, height, weight, BMI, and duration of transfusion, p-value (0.001, 0.007, 0.001, 0.041, 0.001 respectively).

Conclusion: The study concluded that endocrinopathy is a frequent complication among patients with β-thalassemia major, with the most common complications being short stature, subclinical hypothyroidism, type 2 diabetes mellitus, and primary hypothyroidism.