

Type 2 Diabetes Mellitus Association with Anemia and Thyroid Status in the Southern Region of Saudi Arabia

Saif Aboud M Alqahtani, MD* Adil Hassan Alshehri, MD**

ABSTRACT

Objective: In this cross-sectional study we tried to evaluate the prevalence of thyroid dysfunctions and anemia in patients with type 2 diabetes mellitus in a cohort of diabetic patients from the southern region of Saudi Arabia.

Method: This is a retrospective cross-sectional study. Archived clinical data from the different private labs, governmental labs and various specialized clinics following the diabetic patients, from three biggest cities located in the southern region of Saudi Arabia, i.e., Abha, Khamis Mushayt, and Najran. We screened the baseline demographic characteristics, glycosylated hemoglobin (HbA1c), thyroid profile, iron profile, and erythrocytes indices. Data were analyzed by SPSS statistics for the window.

Results: There was a significant difference ($p<0.05$) in the mean value of FT4, TSH, Hbg, RBC, HCT, MCH, MCHC, serum ferritin and iron, respectively between female and male patients, while MCV and FBS showed no significant difference ($p>0.05$). Overall, 50.8% anemia was detected in the study population, among which there were 35.74% patients with a thyroid disorder ($p=0.000$). TSH shows a significantly negative correlation with Hbg, HCT, serum ferritin, iron, and a strong positive correlation with HbA1c.

Conclusion: Our study demonstrated the high incidence of thyroid dysfunctions and anemia in type 2 diabetes mellitus patients and continuous positive correlation of TSH with HbA1c, and negative correlation between TSH and iron profile. Furthermore, HbA1c demonstrated the significantly negative correlation with iron profile.

Keywords: Thyroid Dysfunctions, Hypothyroidism, Anemia, Type 2 diabetes mellitus, HbA1c, Hyperthyroidism

Bahrain Med Bull 2022; 44 (3): 993 - 999

* Department of Internal Medicine
College of Medicine
King Khalid University, Abha
Kingdom of Saudi Arabia.
E-mail: saif@kku.edu.sa, saifalqahtani544@gmail.com

** Department of Internal Medicine