

ORIGINALARTICLE

Analysis of prevalence of thyroid dysfunction in patients with diabetes

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ABSTRACT:

Background: The current research was carried out for evaluating prevalence of thyroid dysfunction in subjects having diabetes. **Materials & methods:** overall 100 diabetic subjects had been recruited. Thorough medical history of all subjects had been recorded. Blood samples had been gathered from all subjects. Thyroid profile had been assessed of all the subjects. Evaluation of the outcomes had been done using SPSS software. **Results:** Mean age of the diabetic subjects was 45.2 years. Among diabetic subjects, mean T3 levels was found to be 2.04 ng/ml while mean T4 and TSH levels was found to be 7.23 µg/dL and 10.10 µIU/ml respectively. Thyroid dysfunction was seen in 30 percent of the patients. **Conclusion:** Screening for thyroid disease among patients with diabetes mellitus should be routinely performed.

Key words: Thyroid, Diabetes, Dysfunction

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This article may be cited as: Sobti S. Analysis of prevalence of thyroid dysfunction in patients with diabetes. J Adv Med Dent Scie Res 2016;4(4):304-305.

INTRODUCTION

Thyroid diseases and diabetes mellitus are the two most common endocrine disorders encountered in clinical practice. Diabetes and thyroid disorders have been shown to mutually influence each other and associations between both conditions have long been reported [1, 2]. On one hand, thyroid hormones contribute to the regulation of carbohydrate metabolism and pancreatic function, and on the other hand, diabetes affects thyroid function tests to variable extents. This paper demonstrates the importance of recognition of this interdependent relationship between thyroid disease and diabetes which in turn will help guide clinicians on the optimal screening and management of these conditions. Thyroid disorders are widely common with variable prevalence among the different populations. Data from the Whickham survey conducted in the late 1970s in the north of England revealed a prevalence of 6.6% of thyroid dysfunction in the adult general population [3].

Hence; the present study was conducted for assessing the thyroid profile in diabetic patients.

MATERIALS & METHODS

The purpose of the current study was to evaluate the thyroid profile in diabetic patients. There were 100 diabetic participants in all. For patients with T2DM, a DM duration of at least 6 months or a DM duration of at least 1 year was required for inclusion. Patients were deemed to have type 2 diabetes mellitus if they were diagnosed before the age of 30, did not take insulin within the first year of their diagnosis, and had no prior history of ketosis or ketonuria. All patients' full medical histories were logged. From each patient, blood samples were taken. Each patient's thyroid

profile was assessed. SPSS software was used to evaluate the outcomes.

RESULTS

Mean age of the diabetic subjects was 45.2 years. Among diabetic subjects, mean T3 levels was found to be 2.04 ng/ml while mean T4 and TSH levels was found to be 7.23 µg/dL and 10.10 µIU/ml respectively. Thyroid dysfunction was seen in 30 percent of the patients.

Table 1: Comparison of thyroid profile among diabetic and non-diabetic subjects

Thyroid profile	Mean	SD
T3 (ng/ml)	2.04	0.63
T4 (µg/dL)	7.23	2.41
TSH (µIU/ml)	10.10	2.98

Table 2: Prevalence of thyroid dysfunction among diabetic subjects

Thyroid dysfunction	Number	Percentage
Present	30	30
Absent	70	70
Total	100	100

DISCUSSION

Diabetes Mellitus (DM) and thyroid dysfunction (TD) are the two most common endocrine disorders in clinical practice [4]. The association between DM and TD is widely known, with the first studies published in 1979 [5]. Since then, several studies in different countries were conducted to estimate the prevalence of TD in diabetic patients. There is great variability in the prevalence of TD in general population, ranging from 6.6% to 13.4% [6,7]. In diabetic patients, the

prevalence is still greater and varies from 10 to 24% [7,8]. These differences can be explained by different diagnostic criteria of TD, the degree of iodine intake among different regions, different sensitivities of the TSH assays and the large population diversity [9]. The relationship between TD and DM is characterized by a complex interaction of interdependence. Screening of TD, especially the subclinical dysfunction, in patients with DM is justified because most patients can be asymptomatic. Determine the prevalence of clinical and subclinical thyroid disease in diabetic patients in our country and its implications in the course of diabetes and known factors for cardiovascular risk is necessary. The aim of this study is to investigate the prevalence of TD in patients with type 1 (T1DM) and type 2 diabetes mellitus (T2DM) in clinical routine.

Mean age of the diabetic subjects was 45.2 years. Among diabetic subjects, mean T3 levels was found to be 2.04 ng/ml while mean T4 and TSH levels was found to be 7.23 µg/dL and 10.10 µIU/ml respectively. Thyroid dysfunction was seen in 30 percent of the patients.

Spain by Díez et al.[10] found an overall prevalence of thyroid dysfunction in 32.4% of type 2 diabetes patients. A study by Perroset al.[11] showed a prevalence of 13.4% in diabetics, though the prevalence was more in female type 1 diabetics. A study in Jordan by Radaidehet al.[12] found the overall prevalence of thyroid disease in type 2 DM to be 12.5% and 6.6% in the control group.

CONCLUSION

Screening for thyroid disease among patients with diabetes mellitus should be routinely performed.

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