



## Study of Thyroid Disorder in Patients of Diabetes Mellitus( 100 Cases)

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**ABSTRACT**

100 patients of Diabetes mellitus and Thyroid dysfunction are studied from February 2013 to January 2015. We studied detailed clinical history regarding duration of diabetes, status of control, symptoms suggestive of thyroid dysfunction and complication of diabetes mellitus and/or thyroid dysfunction. Thyroid dysfunction specially hypothyroidism is common co existing disorder diabetic populations with poor glycemic control. Hence thyroid function should be included at least yearly in diabetic patients eventhough patients are asymptomatic.

**KEYWORDS****INTRODUCTION:**

Diabetes mellitus is known since long as very commonly encountered endocrine metabolic disorder and Thyroid disorder is second most common among general population. The world health organization estimates of diabetes prevalence for all age groups worldwide were 2.8% in 2002 and have been predicted to be 44% in 2030 and some recent studies shows thyroid disorder in general population is estimated to be 6.6%.

Both these endocrine diseases being very common in general population, there are fair chances of their co-existence in a patient. Thyroid hormones are insulin antagonist. Both insulin and thyroid hormones are involved in metabolism of various substrates at various levels including cellular metabolism. Excess or deficit of any one can result in functional derangement of other. Diabetes mellitus appears to influence thyroid function at two sites, firstly at the level of hypothalamic control of TSH release and also at conversion of T<sub>4</sub> to T<sub>3</sub> in peripheral tissues.

Screening for thyroid function in every diabetes patient may help in early detection and treatment of thyroid disease resulting into better control of diabetes mellitus and avoiding or delay the complications .

**AIMS OF STUDY**

1. To find out the prevalence and type of thyroid disorder in patients of diabetes mellitus.
2. To study the status of glycemic control in patients having both the disease(diabetes and thyroid).
3. To find out the prevalence of diabetic complications in patients also having thyroid dysfunction.

**METHODS AND MATERIAL:**

All adults patients of diabetes mellitus attending our hospital during period(February 2013 to January 2015) of this study were explained about co-existence of thyroid dysfunction and its possible impact on control of diabetes and its complication.

All patients were evaluated regarding duration of diabetes, status of control, through physical examination in patients with careful attention to find out findings suggestive of thyroid dysfunction as well as any complication of diabetes mel-

litus or thyroid disorder. In all patients fasting S.TSH, fasting and post prandial blood sugar, S.Lipid ECG, Chest X-ray and fundus examination done. Only in patients who were willing and affording for furture investigations like S.T4, S.T3 estimate, HbA1C and thyroid scan were done.

**RESULT:**

In our study we included 100 patients of diabetes mellitus in which 38 were males and 62 were females, with male to female ratio of 1:1.6. Majority of our patients(66%) were above age of 50 years and had type 2 DM.

AGE (YEARS)	HYPOTHYROID		HYPERTHYROID	
	DM TYPE 1	DM TYPE 2	DM TYPE 1	DM TYPE 2
13-25	03	00	00	00
26-50	00	16	00	01
>50	00	10	00	01

Out of 31 diabetics with thyroid dysfunction, 23 patients were already diagnosed previously and on treatment and with treatment both diseases were well control and they did not have any sign and symptoms suggestive of thyroid dysfunction.

On detail clinical examination remaining 8 patients( out of 31), signs and symptoms of thyroid disease in form of weight gain(37%),facial puffiness(12.5%)were found in 4 patients while 4 patients did not show any clinical evidence. In 62 female diabetics, 23(37.09%) had thyroid dysfunction in form of hypothyroidism, while out of 38 male diabetics, 6(15.2%) had hypothyroidism and 2(5.1%) had hyperthyroidism. We found hypothyroidism more prevalent in our diabetics, out of 38 patients only 2 male patients had hyperthyroidism. Many of thyroid disease patients(23) were on treatment and hense these values did not have much diagnostic/statistical significance.None of our patients of thyroid disease had significant bradycardia, delayed relaxation of ankle jerk or full fill ECG cri-

teria.

#### **SUMMARY & CONCLUSION:**

In our study majority of patients were above the age of 51 years, with female predominance(51%) and co-existence of thyroid and diabetes mellitus(31%) was found in 8 males and 23 females. There were 3 patients with Type 1 DM and all 3 had hypothyroidism, all were controlled with insulin. Among 62 females 37% had hypothyroidism and among 38 males 15% had hypothyroidism and 5.2% had hyperthyroidism. Hypothyroidism was most common in age groups 26-50 years(18%). In patients having both thyroid and diabetes had poor glycemic control i.e. diabetes and thyroid group fasting blood sugar is 176+/- 65.4 mg/dl and mean post prandial blood sugar 208.8+/- 53.3 mg/dl while in patients with diabetes alone had mean fasting sugar level 155.3+/-52.32 mg/dl and post prandial blood sugar level 194.6+/- 50.3 mg/dl.

Thyroid dysfunction specially hypothyroidism is a common co existence endocrine disorder in diabetic population, more so in females of type 2 diabetes mellitus and more commonly asymptomatic and may affect the glycemic control adversely. Hence thyroid function tests should be included at least yearly in evaluation of diabetes mellitus patients even in asymptomatic patients.

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