

THYROID FUNCTIONS IN BEHÇET'S DISEASE

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SUMMARY: This study was designed to examine the thyroid hormone levels and TSH secretion in active Behcet's Disease patients. Thirteen patients were included in the study. T₃, T₄ and TSH determinations were performed with Radioimmunoassay. T₃ uptake and free thyroxine indices were calculated for nine patients. Tc99m-thyroid scintigraphies were performed and only one patient has shown presence of left lobe nodular goitre. None of the thirteen patients had clinical signs of thyroid disease. Our results show that thyroid gland functions are not impaired in Behçet's Disease and no additional studies are required at this point.

Index Words: Thyroid Function Tests, Behçet's Disease.

INTRODUCTION

Behçet's Disease is a multisystemic disorder with oral, genital, ocular manifestations and skin findings. In all organ systems the vasculitis is the main pathologic finding (1,2). Thyroid gland is one of the most vascularized organ in the body. With a blood flow 4-6 ml/min. Thyroid function may be affected by the factors concerning the blood flow of the gland. Present study was aimed to determine thyroid functions in Behçet's Disease.

MATERIALS AND METHODS

Thirteen patients were included in the study, who were seen regularly at the Behçet's Disease out patient clinics of Hacettepe University Medical Center. Seven of 13 patients were male and 6 were female. Mean age for males was 32 and 31 for females. All patients were diagnosed as complete form of Behçet's Disease (3,4). Clinical features of the patients are shown in Table 1. In all patients T₃, T₄ and TSH measurements were performed by using RIA technique. In addition, the values of T₃ uptake and free thyroxine index were calculated in 9 patients. Thyroid scintigraphy was performed by Tc99m. One patient with nodular goitre was also examined with ultrasonography.

RESULTS

None of the patients had history of hypo or hyperthyroidism. One patient had taken radioactive iodine treatment for goitre prior to our evaluation. On physical examination, thyroid was found to be twice normal. 1x1 cm nodule was found on the left lobe. There was no murmur or thrill. All other thyroid glands were normal. As shown in Table 2, T₃, T₄, TSH, T₃-uptake, FTI values of 13 patients were found to be within normal limits. Mean-SE values were 1.42 - 0.07 ng/ml for T₃, 9-1.2 ug/dl T₄, 1.60-0.88 uu/ml for TSH, 0.99-0.16 U for T₃-uptake and 8.97-2.41 ug/dl for FTI. Thyroid scintigraphies of 7 patients were reported as minimally diffuse thyroid hyperplasia. Only one female patient had left lobe hyperactive nodule which compatible with the scintigraphic findings. On ultrasonography, right lobe was found to be 38x9 mm in size and with normal sonographic findings. 39x15 mm of hypoechoic area and nodular appearance with intracystic structure was found in the left lobe. Patient refused to have a needle aspiration biopsy of the thyroid. Necrotic appearance in ultrasonography was considered to be the result of her previous radioactive I¹³¹ treatment.

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Table 1: Clinical Data of Patients With Behcet's Disease.

Case No	Age/Sex	Oral	Genital apht:	Ocular ulceration	Skin involv.	GIS lesion	Arthritis	CNS	Others
1	35/F	+	+	-	+	+	+	-	-
2	35/M	+	+	-	+	-	+	+	-
3	36/M	+	+	-	+	-	-	+	-
4	22/M	+	+	-	+	-	-	-	-
5	23/F	+	+	-	+	-	-	-	-
6	39/M	+	+	-	+	-	+	-	VCSS
7	37/F	+	+	+	-	-	+	+	-
8	32/M	+	+	-	+	-	-	-	-
9	36/M	+	+	+	-	-	-	+	-
10	29/F	+	+	+	+	-	+	-	-
11	31/F	+	+	-	+	-	+	-	-
12	26/M	+	+	+	+	-	+	-	Thrombophlebitis
13	32/M	+	-	-	+	+	+	+	-

GIS: Gastrointestinal System, CNS: Central Nervous System, F: Female, M: Male, VCSS: Vena Cava Superior Syndrome

Table 2: Thyroid Functions of Patients.

Case No	Thyroid palpation	T3 (0.8-2) ng/ml	T4 (4.5-12) ug/dl	TSH (0-5) uU/ml	T-Uptake unit	FTI ug/dl	Thyroid scintigraphy and Ultrasonography
1	N	1.3	7.4	1.2	0.95	7.8	MDTGH
2	N	1.4	8.6	0.9	1.08	7.0	MDTGH
3	N	1.6	9.6	3.8	0.67	14.37	N
4	N	1.3	8.0	1.3	0.81	9.88	N
5	N	1.8	9.4	1.6			N
6	N	1.1	12.0	0.4	1.07	10.94	N, but suppressed
7	N	1.0	9.8	1.3			N
8	N	1.8	7.7	1.6	1.04	7.45	MDTGH
9	N	1.6	8.6	2.6	1.05	8.43	MDTGH
10	N	1.7	10.5	1.9	1.22	7.67	MDTGH
11	N	1.4	8.8	0.6	1.06	7.20	MDTGH
12	N	1.3	8.5	1.8			MDTGH
13	Two times large, 1x1 cm nodule in left lobe	1.2	8.2	1.8			Hyperactive nodular structure in the left lobe, right lobe N, Necrotic nodular appearance in left lobe.

N: Normal, T3: Three-iodo thyronin, T4 : Thyroxin, MDTGH: Minimally diffuse thyroid gland hyperplasia, TSH: Thyroid stimulating hormone, T-uptake: Thyroxin uptake, FTI: Free thyroxin index

DISCUSSION

Thyroid gland is one of the most vascularized organs in the body, with a 4-6 ml/g of blood flow (5). Blood flow and structure of the gland should be normal for functional maintenance of the gland which is vital for the human body. According to Griffin (6), evaluation of the thyroid functions in persons having no significant thyroid disease will help to find out the subclinical and even minimal disorders.

Behcet's disease is accepted as a vasculitis which could be detected in the involved systems. The disease

can affect both veins and arteries. Perivascular mononuclear cell infiltrations are composed of lymphocytes and few plasma cells. In the late stages of the disease, polymorphonuclear cells are found around the vessels (7,9).

In view of the fact that vasculitis could impair the functional properties of the highly vascularized organs, we have studied the hormones of the thyroid gland in the patients with active Behcet's disease. Our results did not show any significant reduction in the levels of active secreted thyroid hormones and thyroid gland

regulatory hormones. All patients have normal levels of T₃, T₄, TSH, T₄ - uptake and FTI. Only one patient had nodular goitre during the study and she is still being treated for Behçet's disease and her thyroid functions are closely monitored.

It appears that vasculitis of Behçet's disease is not causing any significant functional impairment of the thyroid gland and we believe that no further studies are required to evaluate this aspect of the disease.

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