DEPRESSION AND THYROTOXICOSIS

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It is a well-documented fact that the signs and symptoms of mental disorders mimic thyroid dysfunction. At the same time, thyroid disease, itself, may manifest a psychiatric illness. Thyroid function screening tests are, thus, of value in psychiatric illness. This is illustrated by the following case.

H.S., a 73-year-old male was referred to the hospital by his sister who reported that he hd become depressed, agitated and was losing weight. He had been under the care of an internist and upper GI and barium enema were normal three weeks prior to admission.

When seen, he was pale and lean. He was 5'9" tall and weighed 115 pounds. H. S. was constantly wringing his hands and appeared markedly depressed, stating, "I cannot stand it any longer." He admitted to bouts of crying with early morning awakening, diurnal variation in mood, suicidal thoughts and sense of uselessness. He is one of 21 siblings. No family history of depression was noted. He was described as always having an overanxious disposition, stating, "I have always been nervous." He had been married for approximately fifty years. The relationship with the wife was poor and had been worse for the past three years, when he retired as a barber.

Mental status examination revealed the patient to be a tense and anxious person, pacing and wringing his hands. Affect was depressed. The patient admitted to morbid thoughts. No thought disorder, hallucinations or delusions were noted. Memory, attention span and concentration were poor.

Physical examination revealed him to be a pale, lean tremulous person,markedly underweight for his height. Pulse was 86/mn and no thyroid was palpable. No bruit was noted. Blood pressure was 110/70. Skin was warm and dry. A clinical diagnosis of agitated depression and R/O thyrotoxicosis was made.

Further investigation revealed: Hb 12.6 gmg; WBC 9,000; serology, chest x-ray and EKG were normal; serum, B12 and folic acid were also normal. Thyroid functioning tests indicate on 4/12/77; T3-33 (normal 25-35); T4 - 8.5 (normal 6.8-13.6); FTI 2.8 (normal 1.2-4.8). On 7/12/77; T3-33; T4-11.5; FTI 3.8. Clinical impression for thyrotoxicosis was strong and two weeks later a repeat T3, T4, and FTI were done. The results were normal again. He was treated with antidepressants, minor tranquilizers and supportive therapy. There was a partial recovery and the patient was discharged two weeks later and referred to the outpatient program. He did not follow through with treatment and was readmitted in a similar state six months later. Physical investigations were repeated; Hb 11.7 gmg; WBC 6,100; EKG was normal; pulse 86/mn; T3 - 27; T4 - 9.8; FTI - 2.6. He was treated with Propranolol and antidepressants with little relief. The patient was discharged 17 days later on Propranolol, 20 mg t.i.d. and Elavil, 100 mg h.s. Psychologist indicated mild organicity on the Bender. H.S. was readmitted three times during the next six months with poor response to all forms of treatment.

The relationship with the wife continued to deteriorate and she was openly critical of him. Dependence was marked and, though both were highly critical of each other, neither would leave. There was little social support. H.S. would frequently state in the outpatient program, "Doc, I'm so nervous I can't stand it any longer."

He was readmitted for the sixth time in three years on 4/2/80 in a similar agitated state. H.S. said, "I can't take it any longer ..... I can't live this way." The same pattern was observed. Physical examination revealed a weight of 113 pounds. The EKG was normal. Pulse was 88/mn and blood pressure was 110/65. THE CT scan revealed mild cerebral atrophy. Thyroid functioning showed: T3-34; T4-14.9; FTI 5.0 and TSH-2.0 (1.2-5.2) (Refer to Table 1 for comparison of results).

An endocrinological consultation confirmed the clinical impression and a diagnosis of thyrotoxicosis was made. H. S. was started on Propylthiouracil, 50 mg t.i.d., and Inderal, 10 mg t.i.d. on 4/17/80. Propylthiouracil has been increased to 200 mg t.i.d. and the Inderal to 20 mg q.i.d. For the first time in three years H. S. has been doing fair. Weight has increased and the wife reported she can now "tolerate" him. He is on no psychotrophic medication.

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Supportive therapy on an outpatient basis with marital counseling is also being continued.

Discussion

Transient abnormalities in thyroid dysfunctioning in psychiatric patients are well known which correct spontaneously on recovery. However, these tests do not, by themselves, tell the true state of affairs, especially in the elderly. In the elderly symptoms and signs of thyroid dysfunction can be atypical (e.g., apathetic thyrotoxicosis). Most disease processes are usually atypical manifestations of a common disease, rather than a rare disease. It is possible that the case of H.S. has always been a case of thyrotoxicosis, in an early phase presenting as agitated depression. Thyrotoxicosis was missed because initial screening tests were negative and, despite clinical impression, further investigations were not done.

The authors recommend:

1. Thyroid function tests are of value in the evaluation of psychiatric patients.
2. The tests should not be the sole criteria to accept or refuse a diagnosis of thyroid dysfunction and should be co-related clinically.
3. Where signs and symptoms suggestive of thyroid disease are persistent, further tests as T3 estimation by radio immunoassay, T3 suppression test or TSH stimulation test needs to to be done.

TABLE I

	T3 (25-35)	T3 (4.8-13.6)	FTI (1.2-4.08)	
April, 1977		33	8.5	2.8
July, 1977		33	11.5	3.8
January, 1978		27	9.8	2.6
April, 1980		34	14.9	5.0

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