GRAVES' DISEASE WITH ORGANIC MOOD SYNDROME (A Case Report)

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ABSTRACT

A case of Graves' disease with organic mood syndrome in a 36 year old man is reported. Patient had thyrotoxicosis and developed features of mania while in the hospital which necessitated antipsychotic drug therapy.

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KEY WORDS : Graves' disease; Mania

Franks psychotic decompensation occurring in the background of Graves' disease is an explosive clinical situation as manifestations range from severe manic excitement to total apathy. Although rare, the gravity of such situation warrants energetic intervention on both fronts. One such instance of organic mood syndrome with Graves' disease is being presented, highlighting the problems encountered in the management.

CASE REPORT

Index case P, a 36 year old male presented with palpitation, increased appetite, sweating, loss of weight by 5 kgs and swelling in the neck for six months. On examination, patients looked tense, anxious and irritable. He had bounding regular pulse of 120 per minute, hyperhidrosis, fine digital tremors and diffuse enlargement of the thyroid gland with a bruit. Mild lid lag was evident. There was an ejection systolic murmur along the left sternal edge. There was no dermopathy or infiltrative ophthalmopathy.

Blood cell counts, urinalysis, blood sugar, liver function tests, serum cholesterol, blood urea and creatinine were within normal limits. Radiographs of chest and skull too were normal. Hormonal assay showed an elevated triiodothyronine (T3) at 210 ng/dl, elevated thyroxine (T4) at 16 µg/dl and normal level of thyroid stimulating hormone (TSH) at 1.6 µu/ml.

Patients was treated with Tab neomercazole 30 mg per day along with Tab propranolol 20 mg 8 hourly and Tab

diazepam 10 mg at bed time.

Though patient improved marginally in the beginning, in the fourth week of hospitalization he was hauled up for an act of indecent behaviour towards a minor girl in the hospital premises, leading to psychiatric referral.

On psychiatric interview patient denied any misdeemeanour. There was no past history or family history of psychiatric illness. He was a matriculate and had reported to the training centre of his corps about 4 weeks prior to his hospitalization. Unit report observed that he was found to be behaving abnormally since arrival, his working efficiency was low and mental outlook abnormal.

Mental status examination showed him to be anxious and tense initially, but later he was found to be restless, disinhibited, overtalkative, boastful and disruptive. He chanted hymns on Hanuman in the ward and claimed of having attained enlightenment. Flight of ideas, delusions of grandeur and persecution were also present. He slept poorly, ate voraciously and showed assaultive tendencies towards fellow patients and nursing staff. Level and content of consciousness remained normal; orientation, memory and intellect were unimpaired. An organic mood syndrome-secondary mania - was diagnosed and he was treated with antipsychotic drug, Tab haloperidol 20 mg per day in divided doses. The drug was gradually tapered after 8 weeks, following improvement. Antithyroid drug therapy was continued all along. Thyroid scan with ¹³¹I after more than 3 months still showed an uptake of 45% at 48 hours. Clinically at sixth month of treatment patient still showed incomplete resolution of thyrotoxicity. Psychiatrically however patient had shown complete remission of psychosis. Hormonal assay showed an elevated T3 at 247 ng/dl, normal T4 at 6.93 µg/dl and low TSH at 0.10 µu/ml. After continued treatment at eighth

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month T3 level had fallen further to upper limits of normal (200 ng/dl), and T4 continued to remain in normal range (9.4 µg/dl) and TSH was undetectable. *Technitium 99* scan at this stage still showed a high uptake at 40%. Individual was advised ¹³¹I ablation of thyroid.

Discussion

Common psychiatric symptoms in the form of nervousness, apprehension, irritability, emotional lability, lack of concentration, impatience and low frustration tolerance are observed in large percentage of patients in the course of Graves' disease [1]. In a few cases atypical manifestations like manipulative, exploitative, histrionic behaviour or frank apathy with marked inertia (apathetic hyperthyroidism) are found. However such disturbance attaining syndromic level to qualify for a psychiatric diagnosis is not very common. Acute brain syndrome is a feature of "thyrotoxic crisis" and generally responds to vigorous therapeutic intervention. Studies on thyrotoxic patients [2,3] have also revealed occurrence of functional psychosis severe enough to warrant hospitalization. It may resemble manic depressive psychosis (MDP), schizophrenia or delusional disorder. Depression is seen to be more common than mania. Occurrence of mania is considered rare. The index patient had Graves' disease with evolution of psychiatric symptom complex to a full fledged manic episode while on antithyroid drugs. He had no constitutional predisposition or major psychosocial stress preceding the illness. With addition of antipsychotic drug therapy manic episode responded and he remained mentally stable despite subsequent withdrawal of antipsychotic drugs. ¹³¹I ablation was considered in view of the occurrence of major psychiatric illness and absence of any contraindication.

Although constitutional predisposition to psychiatric illness in several thyrotoxic patients has been reported earlier [4,5], it is more likely to be a chance association [6]. The psychiatric manifestations are considered to be due to the direct action of thyroid hormones on the neuronal activity [7].

Altered thyroid hormone economy in the form of elevated T4 (33%) and free T4 levels

(18%) are known to occur in patients with acute psychiatric illness. However T3 and TSH levels remain unaltered. This hyperthyroxinemia is typically transient (up to 2 weeks) and normalises spontaneously. Acute redistribution of T4 from liver associated with a temporary resistance of T4 negative feedback at pituitary level is thought to be the likely cause of this phenomenon [8].

The interesting interaction between the hypothalamus-pituitary-thyroid axis and psychiatric impairment has been addressed by several workers. Mood elevation has been consistently demonstrated on administration of thyrotropin releasing hormone (TRH). The beneficial effects of TRH, T3 and T4 as adjuvants in the treatment of depressive illness resistant to conventional antidepressant drugs has been well recognised [9].

REFERENCES

1. Williams RH. Thouracil treatment of throtoxicosis. *J Clin Endocrinol* 1946; 6 : 1-22.
2. Whybrow PC, Prange AH, Treadway CR. Mental changes accompanying thyroid gland dysfunction. *Arch Gen Psychiatry* 1969; 20 : 48-63.
3. Bursten B. Psychosis associated with thyrotoxicosis. *Arch Gen Psychiatry* 1961; 4 : 267-73.
4. Mandilbrote BM, Wittkower ED. Emotional factors in Graves' disease. *Psychosom Med* 1955; 17 : 109-123.
5. Gurney C, Hall R, Harper M, *et al*. A study of physical and psychiatric characteristics of women attending an outpatient clinic for investigation for thyrotoxicosis. Communication to the Scottish Society for Experimental Medicine, Glasgow, 1967, quoted In: Slater E and Roth M, eds. *Clinical Psychiatry* 3rd ed. (1st Indian ed) London: Bailliere Tindall; 1992; 97.
6. Larsen PR, Ingbar SH. Thyrotoxicosis. In: Wilson JD, Foster DW, eds. *Williams Textbook of Endocrinology* 8th ed., Philadelphia: WB Saunders Company, 1992; 414-45.
7. Reiser LW, Reiser MF. Endocrine disorders. In: Kaplan III, Sadock BJ, eds. *Comprehensive Textbook of Psychiatry*, 5th ed, Baltimore : Williams and Wilkins 1992; 1167-9.
8. Bilezikian JP, Loeb JN. The influence of hyperthyroidism and hypothyroidism on the alpha and beta adrenergic receptor system and adrenergic responsiveness. *Endocr Rev* 1983; 4 : 378-88.
9. Prange AJ, Wilson IC, Lara PP, *et al*. Effects of thyrotropin releasing hormone in depression. *Lancet* 1972; 11 : 999-1002.