ORIGINAL ARTICLE

An assessment of psychiatric disturbances in graves disease in a medical college in eastern India

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Abstract

Background: Graves' disease is a unique conglomeration of cardiovascular, neurological, ophthalmological, and other systemic manifestations. In this study we have tried to explore the psychiatric dimensions of this disease.
Aims: This study attempted to explore clinical features, types, and treatment outcome of psychiatric disturbances in Graves disease.
Study Design: This is a purposive study following the criteria of DSM IV.
Materials and Methods: A total of 36 adult patients of newly diagnosed Graves disease and 30 age- and sex-matched controls were included. Data enumerated were age, sex, date of admission, analysis of psychiatric signs, and symptoms by one independent observer, diagnostic categorization, effect of treatment, and outcome. Follow-up evaluation was done after 1 year.
Statistical Analysis: Statistical analysis was done by the standard error of difference, the chi-square test, and paired Student's T-test.
Results: Among 36 patients 32 were female and 4 were male. Fifteen patients (41.67%) were diagnosed with generalized anxiety disorders (GAD), 6 (16.67%) with mood disorder, 6 (16.67%) with obsessive compulsive disorder (OCD), and 2 each with personality disorder and schizophreniform disorder. The common symptoms were insomnia, irritability, and anxiety. The Frequency of GAD was statistically more significant in the Graves disease group in comparison to control. Fourteen patients agreed to take both antithyroid and antipsychotropic medications (group 1). The rest were treated with only antithyroid drug (group 2). There was significant improvement in both groups and no difference between the groups.
Conclusion: The prevalence of certain psychiatric manifestations in Graves' disease was significantly higher than in the control group. There was no significant difference between therapy with antithyroid drugs and combination of antithyroid with psychotropic medications.

Key words: Graves' disease, psychiatric illness, treatment outcome

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Introduction

Graves' disease is a unique conglomeration of cardiovascular, neurological, ophthalmological, and other systemic manifestations. The physical concomitants of the disease have been extensively dealt with over years. The disease might have been associated with psychological changes which could have a crucial impact on the overall well-being and quality of life of these patients. Impaired quality of life leads to a vicious cycle of greater psychological distress and poor productivity.[1] Therefore in this study we have tried to explore the symptomatology and types of psychiatric illness in Graves' disease and to evaluate therapeutic outcomes in such dysfunction.

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Aims

1. To explore the symptomatology and types of psychiatric illness in Graves' disease.
2. To evaluate therapeutic outcome in such dysfunction.

Materials and Methods

The study was conducted in a Medical College and hospital in Eastern India from January 2008 to December 2010. Thirty-six newly diagnosed cases of Graves' disease were taken from outdoor departments. This is a purposive study following the criteria of DSM IV. According to DSM IV (the American Psychiatric Association Classification Book) a mental disorder due to a general medical condition is characterized by the presence of mental symptoms that are judged to be the direct psychological consequence of general medical condition - in this case Graves' disease. Purposive sampling targets a particular group of people. When the desired population for the study is rare or very difficult to locate and recruit for a study, purposive sampling may be the only option. But it might introduce a fallacy of bias. To eliminate that, patients having the first episode of psychiatric illness were taken as both cases and controls. Informed consent was taken from all patients in accordance with ethical standards of local committee as well as the Helsinki Declaration of 1975 as revised in 2000. Diagnosis was based on clinical examinations, T3, T4, TSH levels, and anti-TPO antibody levels. Thirty age- and sex-matched controls were chosen from the same outdoor. DSM IV criteria clearly suggested "The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general, medical condition."

Therefore exclusion criteria for both case and control groups were patients with neurological disorder prior psychiatric disorder, other endocrine disorders and substance abuse and patients with previous psychiatric diseases. Controls were lost to follow-up more than cases, and many could not afford medications, so our control size is lower in comparison to cases.

Psychiatric assessment was done by an independent observer, our psychiatrist. Severity of psychiatric illness was gauged by specific rating scales like HAM A (Hamilton rating scale for anxiety),[2] MADRS (Montgomery Asberg depression rating scale),[3] Y BOCS (Yale Brown obsessive compulsive scale),[4] etc. Follow-up was done at 6 months and 1 year. Scores to see the degree of improvement by different scales at diagnosis and final follow-up were compared.

For evaluation of therapeutic outcome Graves' disease patients were divided into two groups. Group 1 consisted of those who consented to take both antithyroid drugs and psychotropic medications. Group 2 received only antithyroid drugs. Both groups were on beta-blockers.

Statistical analysis

Significance of difference between proportions was evaluated by the standard error of difference. Comparison of degree of improvement with therapy was calculated by the paired Student's T-Test and chi-square test. $P < 0.05$ was considered significant

Result

A total of 36 newly diagnosed Graves' disease patients were included in the study. There were 32 female and 4 male patients. The age ranged from 18 to 60 years, with mean age of 35.8 (5) years. In the control group age ranged from 20 to 56 years, with mean age of 36.3 (6.5) years. Controls were matched for age, education, and coming from the same locality. They were not the relatives of the patient.

The common symptoms noted among patients with Graves' disease were insomnia (80%), anxiety (62%), and psychomotor agitation (50%). A sad mood, poor self-esteem, and fragile interpersonal relationships were also omnipresent. As interpreted by our psychiatrist generalized anxiety disorder, mood disorder, obsessive compulsive, personality disorder, and bipolar disorder were detected in the Graves disease group [Figure 1]. The patients with latter two disorders on subsequent in depth analysis were seen to have subtle manifestations of the problems right from childhood. Hence they were excluded from subsequent calculations. Among Graves' patients 31 out of 36 had some form of psychiatric manifestations which was highly statistically significant ($P < 0.05$). A total of 41.67% (15) had GAD, 16.67% (6) had mood, and 16.67% (6) obsessive compulsive disorder. In the control group GAD was found in 13.3% (4), mood disorder in 10% (3), and OCD in 3.3% (1). In comparison with control group on the basis of the prevalence only GAD was found to be significantly higher while MD and OCD was more or less comparable [Table 1].

The next part of our study involved assessment of improvement with therapy in Graves disease cases. Patients who consented to take both antithyroid and psychiatric medication were put in group 1, those on only antithyroid drugs comprised group 2.

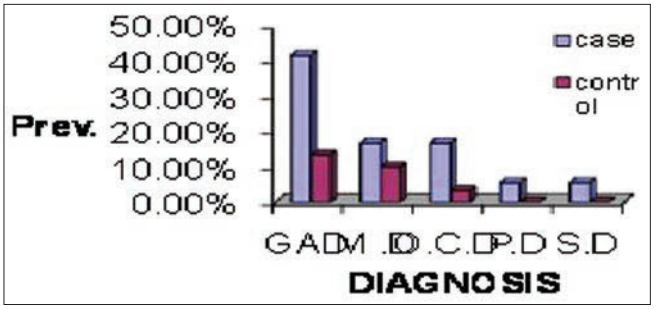

Figure 1: Diagnostic categorization

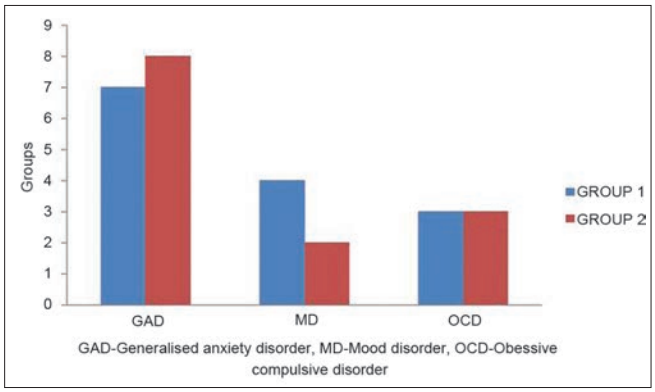

Figure 2: Group allocation

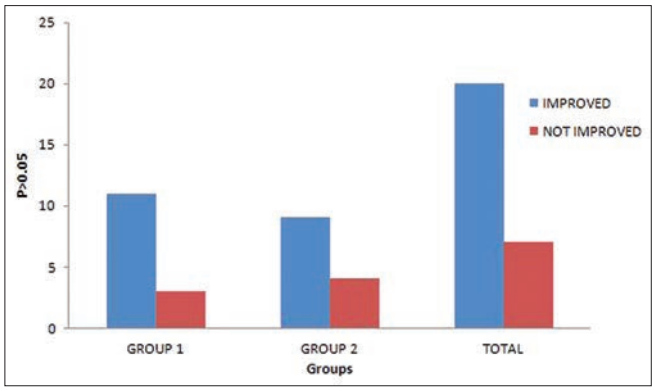

Figure 3: Contingency table

Table 1: Diagnostic comparison

Diagnosis	Graves disease patients %	Controls %	
GAD	41.67	13.3	$P<0.5$
MD	16.67	10	$P>0.5$
OCD	16.67	3.3	$P>0.5$

GAD = Generalized anxiety disorder; MD = Mood disorder; OCD = Obsessive compulsive disorder.

Table 2: Degree of improvement

Score	Group 1	Group 2
HAM A <14	6	5
MADRS <6	2	2
Y BOCS <10	3	2
Total no. of patients with normal scores	11	9

HAMA = Hamilton rating scale for anxiety; MADRS = Montgomery Asberg depression rating scale; Y BOCS = Yale brown obsessive compulsive scale.

The group allocation for each diagnosed psychiatric illness is shown in [Figure 2]. Out of 31 patients showing psychiatric morbidity 11 patients had normal scores at the end of 1 year in group 1 while in group 2, 9 patients became normal [Table 2]. By applying the chi-square test there was no significant difference between the effects of two modes of therapy [Figure 3]. However irrespective of mode of therapy it was evident that our patients improved significantly at the end of 1 year. The mean HAM A score of 15 cases of GAD was 24.6 (3.6) at diagnosis. At the end of 1 year, it was 11.1 (2.96). For patients with depression mean MADRS score was 27 (4) at diagnosis which came down to 7.8 (4.1) at 1-year follow-up. For the obsessive compulsive the respective Y BOCS scores were 16.16 (2.5) and 8.3 (1.3). Applying the Student t-test for each of these classes of patients the decrease in scores was statistically significant ($P < 0.001$).

Discussion

Psychiatric illness is a well-documented concomitant of Graves' disease. Long-term studies spanning over 20 years by Brownlie *et al*. showed an incidence of affective disorders well above chance cooccurrence.[5] The most common ailments detected were generalized anxiety disorder (GAD), bipolar disorder, and depression.[6] Apart from these there have been documentations of borderline personality disorders, schizophreniform disorders, and frank psychosis.[7] In our study GAD was the most common abnormality among newly diagnosed cases. Other two common accompaniments were mood disorders and obsessive compulsive disorders (OCD).

The most discriminating symptoms found were insomnia, psychomotor agitation, and increased tension. Poor concentration, lack of self-esteem, poor social relationships were also widely prevalent. All these leads to deficiency in productivity, loss of work hours, producing a vicious cycle of more depression and anxiety.[8]

A study by Elberling quantitated healh-related quality of life (HRQOL) in newly diagnosed cases of Graves' disease. They opined that there was significant impairment in HRQOL scores (by SF 36 Questionnaire) due to all these psychiatric illnesses at the acute phase. However no correlation was found between TSH levels and degree of psychiatric morbidity.[9,10]

Another interesting angle to the problem that was demonstrated by Farid *et al*. was the relation of ophthalmopathy with mood disorder. It was postulated that disfigurement was a major cause of depression and poor self-esteem.[11-13]

Our observations show prevalence of certain psychiatric manifestations in Graves' disease was significantly higher than in the control group. There was no significant difference between therapy with antithyroid drugs and combination of antithyroid with psychotropic medications.

Existing information regarding the effect of therapy in such cases is slightly conflicting. Some studies have documented "relatively prompt resolution of the patients" dysfunctional behavior with treatment.[14] Others have shown unremitting psychiatric illness in 50% cases which persisted from several months to even a decade after a presentation.[15] Thomson *et al*. found that patients hospitalized with hyperthyroidism were at a greater risk of re admission with depressive episodes.[16]

The finding that there was no significant difference between two treatment groups mentioned above needs to be further explored. Our study suffers from limited number of cases as many were lost to follow-up, and many could not afford all medications.

In conclusion psychiatric illnesses, chiefly, generalized anxiety disorder and mood disorders are highly prevalent among patients of Graves' disease. There is marked improvement with antithyroid medications. The importance of psychiatric consultation in this disease cannot be overlooked.

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