Psychotic Symptoms With Underlying Graves Disease: A Case Report

Sir: Multiple endocrine and nutritional disorders are characterized by neuropsychiatric manifestations. Psychiatric symptoms have been reported in thyroid, parathyroid, adrenal, and pituitary disorders.[1] We present a case of a young man with a recent diagnosis of Graves disease and onset of acute psychotic symptoms.[2,3]

Case report. Mr. A, a 25-year-old man, was brought to the emergency department by a friend in January 2004. During evaluation at the emergency department, he was reported as alert and oriented to place and person. He appeared very scared and complained of visual and auditory hallucinations. With these complaints he was admitted to the psychiatric unit for further care.

During inpatient evaluation, Mr. A reported that he had experienced sudden onset of visual hallucinations 1 month earlier. He described the visual hallucinations as a face covered with a white mask that appeared in front of him from time to time. He reported that the face also talked to him and that he heard a male voice telling him that he would be harmed. He reported that he felt that his house was possessed by demons and that they were coming to get him. He reported getting suspicious of his family members and thought that someone was doing witchcraft on him. Mr. A reported that he had moved out of his house to a friend's residence hoping these visions and voices would go away. His symptoms continued to occur, and thus he was brought to the emergency department by his friend.

During evaluation, Mr. A denied having any history of psychotic symptoms or psychiatric treatment. He stated that he had a history of learning disability in reading and mathematics, which had been diagnosed in middle school. He reported attending special education classes until the 10th grade. No history of psychotropic medications was specified by Mr. A. He denied having any history of recent or past alcohol or drug abuse. Collateral information concurred with Mr. A's history.

During inpatient psychiatric treatment, Mr. A was started on risperidone, 1 mg twice daily. Physical examination revealed bilateral proptosis with diplopia on superior and lateral gaze. Minimal lid lag was also noted. Conjunctival injection was noted bilaterally with no ulceration. His thyroid gland was visibly and palpably enlarged approximately 3-fold and was smooth, symmetrical, and nontender. A bruit was noted on the right lobe of the thyroid gland. Other aspects of his physical examination were noncontributory.

Mr. A reported that he had received a diagnosis of Graves disease 3 months before this hospitalization. He reported that he was started on treatment with propranolol and that he had been noncompliant with his medications and follow-up with his endocrinologist. He reported weight loss of 20 to 25 lb over a 2-month period. His medical workup obtained from his endocrinologist included a thyroid uptake scan study showing markedly elevated thyroid uptake and compatible findings of Graves disease. His medications included metoprolol extended release, 50 mg p.o. q.d. During his last visit to the endocrinologist, his free thyroxine (FT_4) level was 5.60 ng/dL (reference range, 0.80–1.80 ng/dL) and his thyrotropin level was 0.007 mIU/mL. An endocrinology consultation was obtained. Mr. A was continued on metoprolol extended release, 50 mg/day, and methimazole was added to his regimen and titrated to 20 mg/day. The findings of the endocrinology consultation included Graves disease with hyperthyroidism. The endocrinologist recommended follow-up for a subtotal thyroidectomy or radiation.

Mr. A reported no history of thyroid dysfunction treatment before his diagnosis of Graves disease. He reported no history of radiation to the head or neck or use of goitrogens and reported no family history of psychiatric illness or thyroid disease.

Mr. A's psychotic symptoms resolved after the start of risperidone and the thyroid medications.[4,5] He denied having any auditory or visual hallucinations or paranoid ideations during his hospital stay. He was discharged with recommendations for follow-up visits to outpatient psychiatry and endocrinology clinics. His diagnosis at the time of discharge included psychotic disorder not otherwise specified (DSM-IV), probably secondary to uncontrolled hyperthyroidism. DSM-IV schizophreniform disorder was included in his differential diagnosis.

After discharge from the hospital, Mr. A was followed up at an outpatient psychiatry clinic. He denied having any symptoms of psychosis, and no signs of psychosis were observed. At follow-up, his thyroxine (T_4) level was 11.3 μg/dL (normal range for thyroid profile, 5.0–11.5 μg/dL), his triiodothyronine uptake was 35.0% (24%–35%), his thyrotropin level was 0.006 mIU/mL (0.4–5.0 mIU/mL), and his FT_4 level was 2.4 ng/dL (0.8–1.8 ng/dL). Definitive treatment of hyperthyroidism was strongly recommended by his endocrinologist. Mr. A was encouraged to comply with thyroid medications for better control of his hyperthyroidism. The dose of risperidone was progressively decreased by 0.5 mg per month, and risperidone was discontinued over a period of 3 months with no recurrence of psychotic symptoms. During his last visit, he denied having any psychotic symptoms and reported that he was in process of workup with the endocrinology clinic for possible subtotal thyroidectomy.[4,6]

Thyrotoxicosis, along with its physical manifestations, can be associated with several psychiatric symptoms, including confusion, anxiety, and agitated depression.[7] In severe cases, serious manifestations, including impairment in memory, orientation, and judgment; manic excitement; delusions; and hallucinations have been reported.[8] As reported in this case, the most likely etiology of psychosis appears to be manifestation of psychosis secondary to uncontrolled hyperthyroidism. In the present case, effective management of the underlying endocrine disorder resulted in rapid resolution of psychotic manifestations.[4,5]

Although a primary psychotic disorder should be strongly considered in the differential diagnoses, in the absence of substance abuse history (patients can present with acute psychosis with substance abuse), patients with abrupt and unusual onset of psychotic symptoms or manifestations such as nervousness, excitability, irritability, or pressured speech should be screened for thyroid or other underlying endocrine abnormalities.[2,3,8–10] The presence of physical manifestations such as heat intolerance, excessive sweating, weight loss, palpitations, and gastrointestinal symptoms of vomiting and diarrhea along with the above-mentioned symptoms should give rise to a suspicion of hyperthyroidism. No significant psychiatric history, good premorbid functioning, and sudden onset of neuropsychiatric symptoms warrant an investigation for underlying pathology.[8] Sparse literature and data on the incidence and risk of

psychosis in endocrine disorders point to a need for further studies involving neuropsychiatric aspects of endocrine disorders.

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Steroid-Induced Psychosis Treated With Valproic Acid and Risperidone in a Patient With Systemic Lupus Erythematosus

Sir: We report a case in which steroid-induced psychosis was eliminated with combined therapy with valproic acid and risperidone in a patient with systemic lupus erythematosus (SLE).

Case report. Ms. A, a 46-year-old woman, had had a diagnosis of SLE for 20 years. She had been treated with prednisolone from a minimum of 7.5 mg to a maximum of 30 mg daily. Her SLE symptoms had been controlled with prednisolone, 12.5 mg daily, for 5 years. For the last 15 years, she had taken triazolam, 7.5 mg daily, or flunitrazepam, 2 mg daily, for insomnia. She had not experienced episodes of depression, mania, or psychosis. In December 2002, approximately 2 months before her admission to our hospital, her prednisolone dosage was increased to 40 mg daily owing to exacerbation of erythema. After 1 month at this dosage, she had a hypomanic episode (DSM-IV criteria), with symptoms including being more talkative than usual and hyperactivity; thus, prednisolone was tapered to 30 mg daily. Valproic acid was initiated at 600 mg daily, but her symptoms of hypomania progressively worsened during the next month. Owing to her manic episode and psychomotor excitement, she was admitted to our hospital in February 2003.

The results of a physical examination and laboratory tests (including cerebrospinal fluid studies and computed tomography) did not point to a specific physical etiology of her mental symptoms. She was diagnosed as having steroid-induced psychosis (DSM-IV criteria). She was treated with 20 mg of IV haloperidol and 30 mg of IV prednisolone daily because administration of oral medication was not possible due to her psychomotor excitement. After 1 week, she was switched from IV haloperidol to risperidone, 4 mg daily, and her dosage of valproic acid was increased to 800 mg daily. For the next week, her symptoms were relieved. She was discharged after 2 additional weeks. The daily dose of prednisolone had been tapered to 22.5 mg by the time of discharge. For the next month, she did not have psychotic symptoms; therefore, risperidone was discontinued. Valproic acid, 800 mg daily, alone has controlled her mental status since discharge.

This patient developed psychotic symptoms after high-dose prednisolone treatment during an exacerbation of SLE. These symptoms seemed to be caused by steroid-induced psychosis or psychosis attributable to SLE rather than by endogenous psychosis. It is often difficult to differentiate steroid-induced psychosis from SLE psychosis. In the present case, our patient's diagnosis of steroid-induced psychosis was based on medical findings and the temporal relationship between disease progression, treatment, and symptom onset. Lithium has been used successfully to both manage and prevent glucocorticoid-associated affective disorder.[1] The efficacy of valproate as a prophylaxis against steroid-induced psychosis has been documented.[2] Steroid-induced psychosis has been successfully treated with typical antipsychotics[3] or risperidone.[4,5]

In this case, combined therapy with valproic acid and risperidone was effective. Considering the risk of lupus nephritis, treatment with valproic acid as a mood stabilizer was more reasonable than that with lithium. Given the potential for complications with SLE or steroid-induced glucose abnormalities, selection of risperidone as the antipsychotic used was reasonable. Combined therapy with valproic acid and risperidone was effective in this case of steroid-induced psychosis in SLE.

Drs. Kato and Misawa report no financial or other relationship relevant to the subject of this letter.

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