Induction of Response to Psychotropic Medications in Depression and Panic After Concurrent Treatment of Diabetes

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ABSTRACT

We present a case of depression with panic disorder, which did not respond to adequate psychiatric interventions over a period of several months. However, it improved completely with the diagnosis and treatment of diabetes mellitus. Hence, we infer that comorbid diabetes mellitus can render depression resistant to psychiatric interventions and must always be ruled out when treating patients who show poor response to adequate interventions for an adequate period of time. The role of antidepressants should also be considered in poor glycemic control.

Key words: Antidepressant, depression, diabetes mellitus, panic disorder, response

INTRODUCTION

Psychiatrists are often faced with a patient who does not show response to aggressive and adequate psychiatric treatment. It has been found that almost 30% of patients with a diagnosis of depression, fail to show response to an adequate trial of antidepressant medication—a condition known as treatment-resistant depression.\(^1\)

The first step in managing poor response to any line of management is to re-evaluate the patient and consider a revision in diagnosis. Thus, a thorough evaluation is a must to rule out any other psychiatric diagnosis. For example, a patient with primary psychotic disorder presenting with depressive symptoms, which do not respond unless psychosis is treated. However, it is not only necessary to revise the psychiatric diagnosis in such cases, but also to evaluate if the patient is actually suffering from some concomitant illness which may be influencing his/her response to psychotropic treatment. Heart disease, endocrinological diseases like hypothyroidism and diabetes mellitus are some examples of medical conditions associated with depression. We discuss the implications of concomitant diabetes mellitus affecting a patient’s response to antidepressants in the following case report.

CASE REPORT

The patient we describe below is a 65-year-old right-handed female, who was a known hypertensive since 3-4 years. She had a prolonged history of experiencing episodes of ghabrahat, palpitations, breathlessness, giddiness and chest discomfort, lasting about 30-60 min, subsiding gradually with some rest. Sometimes she would also have a fainting spell at the end of it. These episodes had begun in 1998, during a period of...
intense inter-personal discord with her mother-in-law. Initially, the above episodes always were preceded by arguments between them. However, gradually, it was noted that she would experience the symptoms even without any immediate stressors and even after the death of her mother-in-law. Over a period of several months, she also began experiencing episodes of sudden slurring of speech and tremulousness of the entire body in addition to the above. She was very concerned about her condition as she would have repeated such episodes throughout the day for a few days at a time which would incapacitate her. These distressing symptoms resulted in repeated emergency room (ER) visits, where she would be subjected to an electro-cardiography (ECG) evaluation, which was always found to be normal. Then she would be sent home with multi-vitamins and an antacid prescription after a short ER observation. This had been a prevailing pattern, until one day in November 2012, she was referred to the Psychiatry Outpatient Department for evaluation.

A detailed history revealed some on-going stressors—her elder son is alcohol-dependent with two failed marriages and younger son had been having difficulties obtaining a satisfactory job. She also was found to have depressive symptoms, which were noted significantly over the last 2-3 years – sadness of mood, feeling lethargic, anhedonia, occasional crying spells, feeling helpless and hopeless, with sleep and appetite disturbances. During the initial evaluation, she was found to have a normal ECG and 2-D echocardiography as advised by the physician. She had a fasting blood sugar level of 122 mg/dl at initial evaluation. She was diagnosed having panic disorder with major depressive disorder. Hence, she was prescribed a combination of paroxetine and alprazolam (sustained release) initially, and on follow-up augmented with mirtazapine and clomipramine due to persistent symptoms. However, despite treatment with adequate doses of the above medications from November 2012 to April 2013, she continued to experience the episodes as described every few days and remained depressed.

In order to clear the diagnostic confusion stemming out of the persistence of her condition, we admitted her. During this time, she was again subjected to all the routine investigations and significantly found to have further deranged blood sugar — random = 479 mg/dl and fasting = 369 mg/dl. This warranted an additional diagnosis of diabetes mellitus and she was started on injectable human insulin thrice daily before meals.

As soon as the Insulin was started, she experienced a complete resolution of her chief symptoms. She did not experience any more panic attacks and depression also had improved significantly. She was discharged feeling almost 90% better. At her last follow-up 6 weeks after discharge, she reported feeling 100% better — without any more episodes of tremors/slurring/panic and no depressive symptoms. She had attained good diabetic control. We have begun tapering mirtazapine in view of diabetes mellitus.

**DISCUSSION**

Depression a common psychiatric condition and it is often found to be associated with medical illnesses, especially diabetes. Both conditions have been found to influence each other in terms of manifestations, severity and treatment response. Diabetes with concurrent depression has been shown to be associated with impaired metabolic control, poor drug and diet adherence and poor quality of life. Similarly, panic disorder has also been found to be associated with increased rates of psychiatric and medical comorbidities.

Our patient had been experiencing disabling panic and depressive symptoms since several years and continued to have them even after being prescribed three classes of antidepressant/anti-anxiety medications — selective serotonin reuptake inhibitors - paroxetine, noradrenergic and specific serotonergic antidepressant — mirtazapine and tricyclic antidepressant — clomipramine, over a period of 5 months. Hence, augmentation with newer class of antidepressants did not work for her.

However, after she was prescribed insulin for the impaired blood sugar control, she experienced almost 100% improvement in her psychological symptoms while on the same antidepressants as earlier. This is similar to cases of response to antidepressants seen after supplementing deficient patients with vitamin B12.

This highlights the importance of looking for a co-existing medical illness in such patients. Depression can occur prior to, simultaneously with or secondary to other illnesses, and both the conditions can influence the treatment response of the other. Another important consideration is the likelihood of worsened blood glucose levels iatrogenically induced by the antidepressants, especially mirtazapine, which has been implicated variably in glucose dysregulation. This is supported by the fact that our patient’s blood glucose levels worsened significantly after the antidepressant treatment was initiated. Hence, the medication itself may have rendered the depression poorly responsive. In such situations, treating both the conditions leads to improvement in both. Treating diabetes helped overcome the resistance to antidepressants in our case.
Our objective in reporting the case is to highlight the fact that medical illnesses often worsen psychological symptoms. They also may reduce response of the mental illness to standard treatment strategies. Hence, a constant medical re-evaluation of patients with psychiatric disorders, especially those with diagnoses of depression showing poor response is essential.

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