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Case Report

Successful Treatment of Delusional Disorder, Persecutory Type with Lurasidone: A Case Report

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Abstract

Delusional disorder is an uncommon psychotic disorder whose treatment relies heavily on case reports and case series due to the lack of scientific data and clinical guidelines available. Pharmacotherapy with antipsychotics is generally favored as the most effective method of treatment, with second-generation antipsychotics being preferred for their more benign side-effect profile. Lurasidone is a newer second-generation antipsychotic that has a favorable metabolic profile as well as antidepressant and precognitive effects. The case presented is the first report of a patient with delusional disorder who was successfully treated with lurasidone.

Keywords: Delusional disorder; persecutory type; lurasidone

Introduction

Delusional disorder is a psychotic disorder characterized by the presence of delusional beliefs in the absence of other psychotic symptoms [1,2]. It is relatively uncommon – with an estimated prevalence of 0.03%, or about 1-2% of all hospitalized psychiatric patients [3]. Delusional disorder was historically viewed as treatment-resistant; however, more recent data indicate that medication can be effective if the patient adheres to the treatment regimen [4]. Treatment of delusional disorder is challenging for several reasons. First, lack of insight is the core aspect of delusional disorder – patients do not believe they have a mental illness and thus are less likely to adhere to treatment [5]. Second, there is a paucity of scientific data on the treatment of delusional disorder. In fact, there have been no randomized controlled trials that investigate its treatment [5]. Consequently, treatment approaches must rely heavily on case reports and experience in schizophrenia disorders [5]. Pharmacotherapy with antipsychotics is generally favored as the most effective form of treatment for delusional disorder [3]. Early case reports suggested that the First-Generation Antipsychotic (FGA) pimozide was effective in treating delusional disorder; however, in recent years, Second-Generation (atypical) Antipsychotics (SGA) have been preferred due to their more benign side effect profile [5]. Still, the efficacy of SGAs in treating delusional disorder has not been clearly established. A 2006 review by Manschreck and Khan found that while raw data suggested that SGAs might be more efficacious than FGAs, these results did not achieve statistical significance [4]. The most recent literature review found that while some SGAs are associated with an improvement in symptoms, the results are not reliable and cannot form a basis for treatment guidelines [3]. Lurasidone is an SGA that was approved for the treatment of schizophrenia in 2010 [6]. Like all SGAs, its antipsychotic properties are thought to stem from dopamine D_2 and serotonin 5-HT_{2A} receptor antagonism [7]. Lurasidone low affinity for histamine H_1, α_1-adrenergic, cholinergic M1, and 5-HT_{2C} receptors, explains its lower risk of histamine and 5-HT_{2C}-mediated weight gain, histamine-mediated sedation, and anticholinergic side effects like GI disturbances and cognitive dysfunction [8]. Additionally, it acts as a potent 5-HT_7 receptor antagonist and a 5-HT_{1A} receptor partial agonist, which is thought to have possible beneficial effects on depression and cognition [8]. While lurasidone has shown efficacy in the treatment of schizophrenia, no reports have been published on its use in the treatment of delusional disorder. Here we present the first case of a patient with delusional disorder who was successfully treated with lurasidone.

Case Presentation

The patient is a 41-year-old married Caucasian woman who presented at the request of her husband due to his concern for worsening persecutory delusions in the setting of recent antipsychotic changes and suspected medication nonadherence. The patient's past psychiatric history was notable for ADHD diagnosed in childhood. There was no family history of psychiatric disorders. Two years prior to current admission, the patient developed delusional beliefs that her husband worked for the NSA and that she and her children were being targeted by the government. She was convinced that she was kept under constant surveillance, her phone was tapped, her car was tailed, and that bugs were planted in her home. Moreover, she believed that her husband was conspiring with the government to have her hospitalized in order to rid her of credibility in the event that she decided to expose the conspiracy.

She was first hospitalized six months prior to this presentation at our institution for worsening paranoia, delusions, and irritability. At that time, she was given a provisional diagnosis of bipolar disorder with psychotic features given her relatively older age, irritability, and what was thought to be a sudden onset of symptoms. We reviewed the complete record and discussed the case with treating attending psychiatrist and confirmed that there were no other symptoms of bipolar disorder. She had resolution of her delusions after starting lithium and risperidone on that hospitalization. She remained stable for several months until she discontinued risperidone due to the development of facial twitches. During cross taper to lurasidone, she began exhibiting increasingly odd and suspicious behavior and was unwilling to comply with up-titration to a therapeutic dose. Her delusions led to multiple arguments with her husband, culminating in both parties calling the police on the day prior to admission.

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On admission, the patient exhibited persistent non-bizarre delusions and ideas of reference with no affective symptoms or sleep changes. She denied auditory or visual hallucinations. She denied symptoms of acute mania, such as decreased need for sleep, elevated mood, and grandiosity. The patient did demonstrate increased irritability, but this only surrounded confrontation of her delusions. Labs demonstrated that her lithium level was therapeutic. Collateral from her outpatient psychiatrist who had followed the patient for several months in between the two hospitalizations suggested he had never observed any manic or hypomanic symptoms and the delusions were the only symptom that had been observed on longitudinal evaluation. Based on these observations and review of longitudinal disease course, the patient was diagnosed with delusional disorder, persecutory type.

Lurasidone was up titrated to 120mg. Lithium was also continued, with plans to discontinue the medication as an outpatient after achieving a period of stability on lurasidone. The patient's symptoms improved steadily as lurasidone was increased to therapeutic levels. The patient tolerated the medication well and reported no adverse effects. By the end of her 10-day admission, the patient's delusions had fully remitted, and she demonstrated insight into the false nature of her beliefs.

Several months after discharge from the hospital, the patient reported that her symptoms remained controlled on lurasidone monotherapy. Collateral from the patient and her outpatient psychiatry continue to report no manic or hypomanic symptoms in the subsequent treatment period and no further hospitalizations have been needed. Thus, we feel the most accurate diagnosis is delusional disorder as a total of nearly three years of evaluation has been reviewed at this time with no observation of symptoms of bipolar disorder.

Discussion

Treatment of delusional disorder can be particularly challenging because currently no guidelines exist to guide the use of pharmacotherapy in this disorder. To our knowledge, this is the first report demonstrating that delusional disorder, persecutory type, is successfully treated with lurasidone. A number of properties make lurasidone an appropriate choice for the treatment of delusional disorder in our patient, and a potentially important addition to the options for treatment in other patients with delusional disorder. Lurasidone is associated with minimal weight gain and no clinically significant alterations in glucose, lipids, or prolactin [9]. This is of particular importance for our patient, who has several metabolic risk factors, including obesity and elevated triglycerides, and who will likely require long-term therapy. Additionally, since our patient has a history of poor medication adherence, lurasidone's once daily dosing is appealing [10]. Lurasidone does carry a similar risk for extrapyramidal side effects as risperidone (O.R. 2.46 (CI 1.55-3.72) and 2.09 (CI 1.54-2.78), respectively), [11] but fortunately, our patient did not develop any extrapyramidal symptoms during her hospital stay.

Lurasidone acts as a partial agonist at 5-HT_{1A} receptors and an antagonist at 5-HT_{7} receptors, which results in improvement in cognitive performance and a significant reduction in depression [12]. This receptor profile may be particularly beneficial in patients with delusional disorder. Previous reports have proposed that serotonergic dysfunction may be involved in the pathophysiology of Delusional Disorder, Somatic Type (DDST) based on reports of successful treatment with antidepressants [13,14]. Although no reports have addressed the role of serotonergic dysfunction in all other types of delusional disorder, comorbid mood disorder is estimated to occur in 32 to 53 percent of all delusional disorder patients [15-17]. Depressed mood and negative cognition are frequently associated with paranoid thinking [18]. A recent study demonstrated that in patients with non affective psychosis (schizophrenia, schizoaffective disorder, and delusional disorder), depressed mood and negative ideas about the self predicted the strength of persecutory delusions. It has been suggested that treatment of emotional dysfunction may lead to reductions in current psychotic experiences [18]. Thus, lurasidone may provide benefit in the treatment of delusional disorder both through its possible effects on depression and cognition in addition to its antipsychotic properties. Further work on the role of serotonin in delusional disorder should be pursued; given lurasidone's unique serotonin receptor profile, systematic studies may find that this antipsychotic could be particularly useful in delusional disorder.

In conclusion, this case demonstrates that delusional disorder can be successfully treated with lurasidone. Further research is warranted to support the potential benefits of lurasidone for the treatment of delusional disorder, and while we hope high quality randomized controlled trials can be conducted to guide treatment, in the interim we hope case reports such as this will allow clinicians some support in treatment decisions for this difficult to treat illness.

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