CASE REPORT

Montelukast Sodium-Induced Hypomania

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Abstract

Objective: A rare case of induced hypomania was reported. Method: Patient was a 78-year-old Indian female with squamous cell carcinoma of the nasal septum, childhood bronchial asthma and underlying bipolar disorder. Her bipolar disorder is currently in remission. She developed hypomanic symptoms after one week of initiation of montelukast sodium for treatment of acute exacerbation of bronchial asthma. Result: Her hypomanic symptoms improved after stopping usage of montelukast sodium. Conclusion: Montelukast sodium likely had induced hypomania in this patient.

Keywords: Montelukast Sodium, Bipolar disorder, Hypomania

Introduction

Montelukast sodium is a leukotriene receptor antagonist used in the treatment of asthma, to prevent exercise-induced asthma and relieve symptoms of allergic rhinitis. There have been reported neuropsychiatric adverse events in post-market cases which include agitation, aggression, anxiosnness, dream abnormalities, hallucinations, depression, insomnia, disorientations, disturbance in attention, memory impairment, irritability, restlessness, suicidal thoughts and behaviour, and tremor. It is not known if montelukast sodium could trigger hypomania in patients with bipolar disorder.

Here, we report a case of montelukast sodium induced hypomania in a patient with bipolar disorder.

Case Report

Madam K was a 78-year-old female who is a known case of squamous cell carcinoma of the nasal septum and childhood bronchial asthma. She had an underlying bipolar disorder that was diagnosed more than 40 years ago. Throughout the course of her illness, she suffered from multiple relapses alternating between mania and depressive states. Since 2009, she had been in remission and maintaining well on regular follow up and on Olanzapine 5mg ON for her bipolar disorder.

Her bronchial asthma had been stable on MDI Seretide and MDI Ventolin. Three weeks prior to her psychiatry appointment she developed acute exacerbation of bronchial asthma. Montelukast sodium was added on to the treatment for her acute asthma exacerbation. After one week of
taking it, family members noticed that patient started to be more talkative, energetic, elated mood, had persecutory delusions, reduced need for sleep and had increased plans whereby she believed that her neighbours were talking bad about her. Her family members stopped the montelukast sodium as they were worried that it triggered a relapse in the patient. After stopping it for about 2 weeks, family members noticed the improvement in the hypomanic symptoms. She was less talkative, less energetic and did not have persecutory delusions any longer.

Discussion

Mania can be induced during drug treatment, especially in patients predisposed to a mood disorder. However, a single case report is unreliable, and evidence must be gathered from large series of treated patients. There are some drugs that are known to cause manic symptoms such as antidepressants, levodopa, corticosteroids, anabolic-androgenic steroids, thyroxine and isoniazid2.

Pharmacotherapy for asthma is divided into long-term controller medications that are taken on a daily basis and medications used for the treatment of acute exacerbations. Leukotriene modifiers such as leukotriene-receptor antagonists and inhibitors for leukotriene production has shown to increase significantly lung function when used in combination with inhaled corticosteroids3. Montelukast acts by antagonizing the action of leukotriene D4 (and secondary ligands, leukotrienes C4 and E4) on the cysteiny1 leukotriene receptor CysLT1 in the lungs and bronchial tubes4.

The literature on montelukast induced mania in patients with bipolar disorder is rarely reported. Montelukast is frequently prescribed to children diagnosed with asthma. It has been reported in a longitudinal 10-year cohort study in the paediatric population that boys tend to display aggressive behavior as the side effect of using montelukast. The girls are more prevalent to express suicidal thoughts5,6. However, how and what were the mechanism of action in montelukast to produce these side effect was not explored. In this case, the patient with a known underlying bipolar disorder experienced hypomanic symptoms soon after starting on the medication for treatment of her bronchial asthma. Her symptoms improved after montelukast sodium was stopped.

In conclusion, this case report is written up in the hope of contributing to the limited knowledge on the causal relationship of hypomania to montelukast sodium exposure. More research is needed to ascertain the safety of usage of montelukast sodium in the treatment of bronchial asthma in patients with bipolar disorder.

References


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