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Case Report

Hypomania with Low-Dose Lamotrigine Suggests it Really is an Antidepressant

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Abstract

Depression predominates over any other mood phases in bipolar I disorder, and treatment options remain sparse. Lamotrigine, an anticonvulsant used for the prevention and treatment of bipolar depression, has been reported to induce hypomanic and manic switches. Its multimodal mechanism of action may provide an explanation for its propensity to induce mood switches. The authors report a case of hypomania developing briefly after the introduction of very low-dose adjunctive lamotrigine for the treatment of bipolar depression and review proposed mechanisms of action.

Introduction

To the Editor, Previous studies have emphasized that depression is the most experienced mood phase in bipolar I disorder [1,2]. Lamotrigine, in monotherapy or as an adjunct, is recommended for prevention and treatment of depressive relapse by CANMAT guidelines [3]. Manic and hypomanic episodes occurring after introduction of lamotrigine have been reported [4,5]. Frequent episodes (rapid cycling), mixed episodes, higher dosages, and short titration periods have been suggested as potential risk factors for lamotrigine-induced manic switch [4-6]. We present a case of hypomania developing briefly after the introduction of very low-dose adjunctive lamotrigine and suggest that its properties are similar to traditional antidepressants.

Case Presentation

We obtained the patient's written consent to anonymously publish her case. Ms. A. is a 22-year-old woman previously diagnosed with bipolar I disorder, attention-deficit/hyperactivity disorder, eating disorder not otherwise specified and alcohol use disorder in partial remission. Her medical history was otherwise positive for fibromyalgia, endometriosis, and restless leg syndrome. She was treated with aripiprazole 25mg/day, methylphenidate (Concerta) 54mg/day, gabapentin 1200mg/day, naltrexone 50mg/day and pramipexole 1mg/day. She experienced a relapse of depressive symptoms because of psychosocial stressors in September 2022. Lamotrigine was therefore introduced at 12.5mg/day and titrated to 50mg/day within 2 weeks. Thereafter, she experienced (1) labile mood, (2) decreased need for sleep, (3) increased energy, (4) racing thoughts and (5) excessive involvement in impulsive activities (sexual encounters). She denied psychotic symptoms. Substance use was excluded as a possible confounder. The diagnosis of hypomania was made according to DSM-5 criteria. Subsequently, lamotrigine was decreased to 25mg/day, aripiprazole was increased to 30mg/day and methylphenidate was held. One week later, symptoms including mood, energy, and impulsivity had improved. One week thereafter, Ms. A. experienced increased hypomanic symptoms, including (1) irritable mood, (2) increased energy and (3) racing thoughts. Quetiapine XR 50mg qHS was therefore added and lamotrigine discontinued altogether. Two weeks following the latest medication change, hypomanic symptoms completely subsided.

Discussion

In early epilepsy studies, patients treated with lamotrigine reported improvements in mood and quality of life, which triggered its exploration as a treatment for bipolar disorder [7,8]. Lamotrigine's propensity to induce hypomanic episodes may be explained by its antidepressant properties [6,9]. Proposed antidepressant mechanisms of action derived from animal and human models include monoamine reuptake inhibition (norepinephrine, dopamine, and serotonin), 5HT1A receptor downregulation, and decreased glutamate release with subsequent reduction in binding to the N-methyl-D-aspartate (NMDA) receptor [7-11]. Additionally, lamotrigine exerts its antiepileptic properties through selective and focal antagonism of N- and P-type calcium channels and through voltage-dependent antagonism of sodium channels [7,8,12]. Lamotrigine indeed differs from other mood stabilizers, as it has not been shown effective in treating manic episodes [6,8,13].

Conclusion

The patient's mood remained stable for several months in the absence of lamotrigine and hypomanic symptoms developed within a few days of lamotrigine initiation. It is therefore unlikely that her hypomanic switch was related to her other medication. This case illustrates the importance of monitoring for hypomanic symptoms in patients treated with lamotrigine given its propensity to induce mood switches, even at low doses. Further study is warranted to help establish the frequency and better understand the causes of lamotrigine-induced hypomania. Based on our current understanding of its mechanism of action and its relative lack of confirmed antimanic properties, we propose that lamotrigine functions more as an antidepressant than as a mood stabilizer; although perhaps it remains a safer choice for most, but not all bipolar patients. Prudence and close follow up, especially when initiating lamotrigine, is recommended.

References

1. Judd LL, Akiskal HS, Schettler PJ, Jean Endicott, Jack Maser, et al. (2002) The long-term natural history of the weekly symptomatic status of bipolar I disorder. Arch Gen Psychiatry 59(6): 530-537.
2. Kupka RW, Altshuler LL, Nolen WA, Suppes T, Luckenbaugh DA, et al. (2007) Three times more days depressed than manic or hypomanic in both bipolar I and bipolar II disorder. Bipolar Disord 9(5): 531-535.
3. Yatham LN, Kennedy SH, Parikh SV, Ayal Schaffer, David J Bond , et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder. Bipolar Disord 20(2): 97-170.
4. Raskin S, Teitelbaum A, Zislin J, Durst R (2006) Adjunctive lamotrigine as a possible mania inducer in bipolar patients. Am J Psychiatry 163(1): 159-160.
5. Oflaz S, Yıldızhan E, Tatar ZB, Akyuz F (2015) A case of hypomania with low-dose lamotrigine. Indian J Psychiatry 57(2): 217.
6. Anmella G, Pacchiarotti I, Hidalgo-Mazzei D, Giovanna Fico, Andrea Murru, et al. (2022) Lamotrigine-induced mania: Warning report for the identification of vulnerable populations and expert clinical recommendations for prescription. Int Clin Psychopharmacol 37(6): 276-278.
7. Hahn CG, Gyulai L, Baldassano CF, Lenox RH (2004) The current understanding of lamotrigine as a mood stabilizer. J Clin Psychiatry 65(6): 791-804.
8. Mufson JM (2018) Lamotrigine: Pharmacology, clinical utility, and new safety concerns. Am J Psychiatry Resid J 13(12): 2-4.
9. Margolese HC, Beauclair L, Szkrumelak N, Chouinard G (2003) Hypomania induced by adjunctive lamotrigine. Am J Psychiatry 160(1):183-184.
10. Subodh NB, Jayarajan D, Chand PK, Benegal V, Murthy P (2011) Lamotrigine-induced manic switch: A report of 2 cases. Prim Care Companion CNS Disord 13(1).
11. Thomas SP, Nandhra HS, Jayaraman A (2010) Systematic review of lamotrigine augmentation of treatment resistant unipolar depression (TRD). J Ment Health 19(2): 168-175.
12. Ng F, Hallam K, Lucas N, Berk M (2007) The role of lamotrigine in the management of bipolar disorder. Neuropsychiatr Dis Treat 3(4): 463-474.
13. Besag FMC, Vasey MJ, Sharma AN, Lam ICH (2021) Efficacy and safety of lamotrigine in the treatment of bipolar disorder across the lifespan: A systematic review. Ther Adv Psychopharmacol 11: 20451253211045870.