The Japanese Society of Clinical Neuropsychopharmacology
Clinical Neuropsychopharmacology and Therapeutics

Lamotrigine Treatment for Affective Instability in Adolescents With Borderline Personality Disorder

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ABSTRACT

Patients with BPD are characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image. The efficacy of fluvoxamine and lamotrigine for affective instability in patients with BPD has been shown in controlled studies. However, no study has evaluated the effectiveness and safety of lamotrigine for treating irritability in adolescent patients with BPD in Japan. Here, we report the case of a patient with BPD whose condition improved after lamotrigine administration. Lamotrigine could be effective and safe for treating BPD-associated affective instability. However, large-scale controlled studies are needed to confirm our findings.

Keywords: lamotrigine, borderline personality disorder, affective instability, suicidal behavior, adolescent

Received January 30, 2012 / Accepted March 28, 2012 / Published May 11, 2012

INTRODUCTION

Patients with borderline personality disorder (BPD) are characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image. Affective instability is one of the symptoms of BPD mentioned in the Diagnostic and Statistical Manual of Mental Disorders, Forth Edition Text Revision (DSM-IV-TR) and is a core feature of this disorder [1]. As defined by DSM-IV-TR, affective instability involves a marked reactivity of mood and intense episodic dysphoria, irritability, or anxiety, which usually lasts a few hours and rarely more than few days.

Only two placebo-controlled studies have directly examined the effectiveness of pharmacotherapy in reducing affective instability in patients with BPD. In a study with patients aged 18–50 years, Rinne et al. reported that fluvoxamine significantly reduced rapid mood swings, such as anxiety, depression, and irritability [2]. Reich et al. treated 28 outpatients aged 18–64 years with a flexible dosage of lamotrigine (25–275 mg/day) and evaluated BPD core symptoms with the Zanarini Rating Scale for BPD. The results indicated a significant reduction in affective instability and impulsivity [3]. However, to date, no studies have evaluated the effectiveness of lamotrigine for treating affective instability with BPD in adolescents.

Lamotrigine is an anticonvulsant drug used in the treatment of epilepsy and bipolar disorder. The mechanism of action of lamotrigine depends on voltage sensitive sodium channels that stabilize the neuronal membrane and inhibit the release of excitatory neurotransmitters.

Here, we report the case of a Japanese adolescent with BPD who exhibited affective instability that improved following lamotrigine administration.

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CASE PRESENTATION

A 16-year-old girl was admitted to the Tokai University Hospital Emergency Medical Center following a suicide attempt by jumping off the second floor. Previously, she had been hospitalized three times for the same reason. The patient had been diagnosed with major depressive disorder by another hospital. She was taking sertraline (100 mg/day), valproate (600 mg/day), alprazolam (1.2 mg/day), and brotizolam (0.25 mg/day) prior to being admitted to this hospital. She had previously received several different medications, including paroxetine, fluvoxamine, carbamazepine, and quetiapine, but with minimal response. Her score on the Global Assessment of Functioning (GAF) scale was 20–25 and her score on The Clinical Global Impression-Severity (CGI-S) scale was 6.

We examined the patient and spoke to her parents during her hospital stay. Psychiatric diagnosis was made according to DSM-IV-TR criteria [1]. Psychiatric morbidity was assessed by the Mini International Neuropsychiatric Interview (M.I.N.I.) [4], which includes Axis I (psychiatric) disorders for DSM-IV and ICD-10 diagnoses. She was not diagnosed with major depressive disorder or any other Axis I disorder. Moreover, we confirmed the diagnosis of BPD using the Structured Clinical Interview for DSM-IV Axis Personality Disorders [5]. She was discharged in six days after somatotherapy was completed and was subsequently treated at this hospital as an outpatient.

She exhibited chronic feelings of emptiness, affective instability, impulsive aggression, repeated self-injury, and chronic suicidal tendencies. We initiated lamotrigine treatment based on a placebo-controlled study, which showed that lamotrigine was effective in reducing affective instability in patients with BPD [3]. We focused on improving affective instability to prevent suicidal behavior because her suicidal tendencies were often triggered by affective instability (intense episodic dysphoria, irritability, or anxiety). Valproate was tapered off and then stopped before initiating lamotrigine treatment because the concurrent use of lamotrigine and valproate could increase the risk of Stevens–Johnson syndrome. Lamotrigine was initially administered at a dose of 25 mg for the first two weeks. Later, the dose was increased to 50 mg for the 3rd and 4th weeks and then to 100 mg for the 5th week. The consensus is that dose titration should be performed slowly, in small steps. Many patients developed benign rashes after starting treatment. We carefully titrated the dose according to the usual dosage and administration for bipolar disorder. The normal starting dose was 25 mg for the first two weeks, which was then increased to 50 mg for the 3rd and 4th week, 100 mg for the 5th week, and 200 mg for the 6th week. The patient was monitored closely for any rashes or other side effects. She responded to the medication well. Affective instability improved 4 weeks after the start of lamotrigine (100 mg/day) administration, and laboratory examinations did not reveal any abnormal findings, such as rashes or changes in blood pressure or pulse rate. Moreover, no serious adverse effects were observed during the treatment. The increase in lamotrigine dosage to 100 mg/day resulted in sedation for a few days but the sedation disappeared in 2 weeks. The patient exhibited remarkable improvement within 4 months. Her score was 60–65 on the GAF scale and 3 on the CGI-S scale. As she became more stable, the sertraline dosage was reduced to 50 mg/day and alprazolam was discontinued. After 6 months of treatment, although suicidal ideation and self-injurious behavior sometimes develop, she has not attempted suicide. Her score on the GAF scale was estimated to be 70–75 and her score on the CGI-S scale was 2. She is currently attending high school and has taken a part-time job at a convenience store.

DISCUSSION

In a double-blind, placebo-controlled study, flexible-dose lamotrigine was an effective treatment option for affective instability in patients with BPD. The mean final daily dose of lamotrigine used in the study was 106.7 mg, and the range of the final daily doses was 25–225 mg. The mean daily dose at 4 weeks was 73.1 mg with a range of 50–100 mg; the mean daily dose at 8 weeks was 93.3 mg with a range of 12.5–175 mg. In this case, we initiated 100 mg/day lamotrigine at 5 weeks to treat irritability resulting from BPD. The normal starting dosage for lamotrigine treatment is 25 mg/day for 1–2 weeks, which may be increased to 50 mg/day for 2–3 weeks, 100 mg/day in week 5, and 200 mg/day in week 6. These results suggest that the appropriate antipsychotic dosage for patients with BPD and affective instability may be the same as that for patients with seizures or bipolar disorder.

In this case, the only adverse event was sedation. In a controlled study, the most common adverse event in patients receiving lamotrigine was rash, which occurred in three patients. Other adverse events were pruritus, sedation, confusion, headache, dizziness, and irritability. Lamotrigine may be safe and tolerable in the treatment of affective instability in adolescents

with BPD.

There have been no previous reports showing the effects of lamotrigine in improving affective instability in Japanese adolescents with BPD. Therefore, in this case report, we presented a case in which lamotrigine administration was useful in the treatment of affective instability in a patient with BPD. Many issues regarding the pathology of BPD and the efficacy of lamotrigine still need to be elucidated, and further research is therefore essential.

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