Case Report

Dopa-Responsive Dystonia subsequent to Lamotrigine Administration: Case Reports

HOSSEIN ALI EBRAHIMI* and SAEED EBRAHIMI

For author affiliations, see end of text.

Received October 22, 2012; Accepted November 10, 2012

This paper is available online at http://ijpt.tums.ac.ir

ABSTRACT

Epilepsy is a common neurologic disorder affecting approximately 1% of the population. The prevalence of active epilepsy in Kerman, Iran is 7.87/1000 individuals. The past decade has brought many advances to the treatment of epilepsy, including many new pharmacological agents. Lamotrigine is one of the new antiepileptic drugs. Lamotrigine has many side effects, the most important of which are allergic reactions. In this article, the author reports two cases of dopa-responsive dystonia (DRD) after few months of administration of lamotrigine for epilepsy. The cases are two girls (4 and 5 years old) who had seizures and received lamotrigine 50 mg/day. They have been free of seizure after treatment but after some time the dystonic attacks developed. Lamotrigine administration discontinued, but dystonic attacks didn’t disappear. Levodopa/carbidopa was started. After a few days, the dystonic pastures disappeared. In conclusion, lamotrigine may introduce dystonia in susceptible patients. These dystonic attacks might be responsive to levodopa.

Keywords: ????

Epilepsy is a common neurologic disorder affecting about 1% of the population. The prevalence of active epilepsy in Kerman, Iran is 7.87/1000 individuals. The past decade has brought many advances to the treatment of epilepsy, including many new pharmacological agents. Lamotrigine is one of the new antiepileptic drugs. Lamotrigine has many side effects, the most important of which are allergic reactions. In this article, the author reports two cases of dopa-responsive dystonia (DRD) after few months of administration of lamotrigine for epilepsy. The cases are two girls (4 and 5 years old) who had seizures and received lamotrigine 50 mg/day. They have been free of seizure after treatment but after some time the dystonic attacks developed. Lamotrigine administration discontinued, but dystonic attacks didn’t disappear. Levodopa/carbidopa was started. After a few days, the dystonic pastures disappeared. In conclusion, lamotrigine may introduce dystonia in susceptible patients. These dystonic attacks might be responsive to levodopa.

Keywords: ????
with dramatic and sustained response to treatment with levodopa. This disorder was first described by Segawa [14]. The most common form of DRD is an autosomal-dominant condition (DYST1) caused by mutation of the ATP13A2 gene for guanosine triphosphate cyclohydrolase [15].

CASE REPORTS

Case 1

A 5 years old girl who used lamotrigine 50 mg per day due to tonic-clonic seizure and had her first attack of seizure two months before her first visit. After starting lamotrigine, the patient was free from seizure for one year. Dystonic attacks were worsened later in the day. Results of physical examinations, brain’s MRI scans and hematologic and serologic laboratory tests were normal. Dystonic posture did not disappear after lamotrigine was discontinued. The dystonic attacks disappear after two days, when 50 mg per day levodopa/carbidopa was started.

Case 2

A 4 years old girl used lamotrigine 50 mg per day due to complex partial seizure. She had had her first attack of seizure a few months before her first visit. After receiving lamotrigine for two months, dystonic posture developed in lower limb and then spread to lumbar spine. Dystonic posture worsened later in the day. Physical examinations, brain’s MRI scans, hematologic and serologic laboratory tests were normal. Dystonic posture did not disappear after lamotrigine was discontinued. The dystonic attacks disappear after three days, when 50 mg per day levodopa/carbidopa was started.

DISCUSSION

DRDs are a group of disorders that show a good response to levodopa. The causes of these disorders are unknown, but the mutation of a gene is recognized in some studies. Onset of this disease usually happens in the first decade of life starting with foot dystonia, which progress to involve other body parts, but typically remains more severe in the lower extremities. The severity increases progressively over the first two decades of life, but plateaus with relatively few side effects and no long-term complication [16]. Untreated individuals developed diurnal fluctuations with marked improvement in the morning and worsening in the evening. DRDs are more frequent in female than in males, with a ratio varying from 1 to 4.3:1. Diagnosis of DRD can often be made on clinical grounds [17].

There are reports about DRD induction by diazepam [18], bupropion [19], cetirizine [20], riluzole [21], and tetrabenazine [22]. The authors, however, didn’t find any reports about post-lamotrigine conditions.

Lamotrigine is a new antiepileptic agent that is frequently used in epileptic patients with a good tolerability and efficacy. Lamotrigine has side effects, the most common form of DRD is an autosomal-dominant condition (DYST1) caused by mutation of the ATP13A2 gene for guanosine triphosphate cyclohydrolase [15].

REFERENCES

Dopa-responsive lamotrigine-induced dystonia

13. 64:1134-8.
16. 8:230-42.
19. 8:230-42.

19. THE NOVEL ANTIEPILEPTIC DRUGS: CLINICAL PHARMACOLOGY AND ADVERSE EFFECTS


CURRENT AUTHOR ADDRESSES

22. Hossein Ali Ebrahimi, Neurology Research Center, Kerman University of Medical Sciences, kerman, Iran. E-mail:
23. Saeed Ebrahimi, Medical student of Tehran University of Medical Sciences, Tehran, Iran.