Dopa-Responsive Dystonia subsequent to Lamotrigine Administration: Case Reports

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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 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.

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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 (DYST) caused by mutation of the most important of which is exfoliative dermatitis [20]. A study showed dizziness in 11%, and rash in 12% of cases, but if treatment begins with low doses, these events decreases [24]. Other side effects were also reported such as sudden death due to cardiac arrhythmia in two cases [25], psychosis as one of the rare side effects of lamotrigine [13], oral ulcers [26], chorea [27], leukopenia and thrombocytopenia [28], anticonvulsant hypersensitivity syndrome [29], abnormal eye movements and hyper-sexuality [30]. This dystonic effect may be due to the lack of selectivity of lamotrigine to block glutamate release in susceptible individuals. In dystonic mutant hamsters when this subsided, dystonia can be re-invoked when these animals receive sodium channel blockers such as lamotrigine [31–34]. The patients under discussion are two girls (4 and 5 years old) who had seizure and received lamotrigine for a time and were free of seizure attacks. Dystonic attacks disappeared after receiving 50 mg/per levodopa/carbidopa. In conclusion, lamotrigine may introduce dystonia in susceptible patients. The dystonic attacks are responsive to levodopa.

**References**


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Dopa-responsive lamotrigine-induced dystonia