

Lingual Dystonia Related to the use of Cinnarizine

Cinnarizine is a selective calcium channel blocker and is also similar to neuroleptic drugs with its antihistaminic, antiserotonergic, and antidopaminergic activity. Some patients develop many side effects while using this drug, including drowsiness, asthenia, depression, or movement disorders such as parkinsonism, dystonia, akathisia, and tardive dyskinesia. Depression is a very common side effect of this

drug, and it is thought as movement disorder.^[1-4] The exact pathophysiological mechanism that causes movement disorder is not clear, but it is thought that D2 receptor blockade may be responsible, as in neuroleptics.^[5] This case is important to draw attention to acute lingual dystonia, which is a rare side effect after chronic use of cinnarizine, and to emphasize that it can be reversible upon discontinuation of the drug.

A seventy-year-old male patient was evaluated due to the complaint of difficulty in speaking due to contraction of his tongue for 15–20 days (video imaging). The patient had a history of hypertension and hypothyroidism, and there was no obvious feature in his family history. His physical examination was normal, and he did not identify any gingival or tooth loss. A neurological examination of the patient, who was being used 75 mgr/day cinnarizine for 7 years, did not reveal any abnormality other than involuntary tongue contractions. The treatment of cinnarizine was started with the diagnosis of Meniere. Although he tried to stop the drug for a short time, he started again after her complaints increased and he had been using it regularly for a long time. The other drugs he used were candesartan and levothyroxine. The blood tests were normal, and magnetic resonance imaging of the brain was normal. The patient was thought to be a case of drug-induced lingual dystonia. The cinnarizine treatment stopped immediately, and after about three weeks, the patient completely recovered.

Drug-induced movement disorders are a condition that can be overlooked in practice. It usually occurs after the use of dopaminergic blockers or neuroleptics. Other drugs causing lingual dystonia reported in the literature are metoclopramide, olanzapine, lithium, haloperidol, anticancer drug capecitabine, risperidone, aripiprazole, cyclizine, meperidine, cisapride, and pimozide.^[6-8]

Movement disorders due to chronic use of cinnarizine develop slowly and are often overlooked.^[1] A wide range of drugs such as antiemetics, drugs used for dizziness (calcium channel blockers), or neuroleptic drugs can cause drug-induced movement disorder. While the disorder in the dopamine pathway is held responsible for the pathophysiology, D2 receptor blockade is the main cause.^[5] Additionally, they reduce dopamine neurotransmission. These effects may depend on some factors, including age, penetration across the blood-brain barrier, and types of calcium channels present in the different neuronal subtypes.^[9] While acute reactions and dystonia are common in young patients, tardive or chronic reactions are common in elderly patients. Parkinsonism is the most common movement disorder. Parkinsonian symptoms were only seen in patients older than 50 years. The risk is higher in women. Patients treated for >6 months had significantly larger reductions than patients treated for a shorter period. In the study of Brucke *et al.*,^[6] symptoms started after 16 months. In the study of Gimenes *et al.*,^[10] this period was 4 years. In the literature, movement disorders such as cinnarizine-induced parkinsonism, tardive dystonia, and akathisia reported, but lingual dystonia has not been observed.^[1,2] Tongue myorhythmia and lingual tremor should be considered in the differential diagnosis of dystonic tongue movements. Tremor is defined as the rhythmic and oscillatory involuntary movement of a body part of relatively constant frequency and variable amplitude, resulting from alternating or synchronized contractions of antagonist muscles. The frequency of tongue tremor (4–8 Hz) was identical to a hand tremor. Myokymia is an uncommon movement disorder that is characterized by slow, rhythmic, and repetitive jerky

movements of 1–4 Hz frequency, involving the cranial or limb muscles. In dystonia, the contractions are long-lasting (tonic) and create a posture at the peak of the movement, which is the result of the co-contraction of agonists and antagonists.^[11]

We report the first case of drug-induced lingual dystonia that developed after long-term use of cinnarizine and was reversible upon discontinuation of the drug.

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Conflicts of interest

There are no conflicts of interest.

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