

## Case Report

### Drug Induced Parkinsonism Presenting As Isolated Jaw Tremors

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**Abstract:**

We describe a case of drug-induced-parkinsonism (DIP) that presented with isolated mandibular tremors despite prophylactic anticholinergic therapy. Varied presentations of DIP may be explained by anatomical & functional neuro-circuitry of striatum.

**Key Words:** Drug Induced Parkinsonism, Tremors, Antipsychotics

**Introduction**

Drug induced Parkinsonism has been described after use of conventional as well as atypical antipsychotics. This usually appears after 2-4 weeks of therapy.(1) We present a case that developed tremors of the jaw one week after starting atypical antipsychotic drug along with prophylactic Trihexyphenidyl.

**Case Report**

A 55 year old man with the diagnosis of Manic Depressive Psychosis for 20 years developed acute manic episode. He was put on the Risperidone 4 mg/day & Trihexyphenidyl 4 mg/day in divided doses. After 8 days he developed abnormal movements of the jaw consisting of repeated opening & closing. The frequency was 3-4 Hz. Since we did not have the facility for electromyogram, a frequency assessment was done by capturing the video of the patient for one minute and then counting average number of movements for one second with the help of Windows Movie Maker. Movements were aggravated during stress and relieved while speaking, chewing and sleep. His physical & neurological examination was normal. Subject had controlled hypertension on cardioselective beta blockers.. He was advised MRI Head to rule out the possibility of lacunar infarct & it appeared normal. Diagnosis of Drug Induced Parkinsonism was made based on these findings. Risperidone was reduced to 3 mg/day & Valproate in the doses of 1200 mg/ day in divided

doses p.o. started. Jaw tremors disappeared in 10 days. His Risperidone & Trihexyphenidyl was withdrawn gradually over three weeks.

**Discussion**

Occurrence of mandibular tremors in a patient receiving antipsychotic and a prophylactic anticholinergic drug is uncommon. The jaw tremors that this patient had, needed to be differentiated from 'Rabbit Syndrome', which presents as fine tremors of peri-oral muscles rather than the jaw movements.

Induction of Drug-Induced-Parkinsonism is related to the relative balance of muscarinic blockade & D2 blockade rather than the absolute number of D2 blockade as explained by Kapur et al (3) and Daskalakis et al.(4) This is further evident by the fact that antipsychotics with higher anticholinergic activity have lesser propensity to induce drug-induced-parkinsonism (5) and similarly this patient improved only with the reduction of risperidone dose. However, this imbalance theory has been challenged & the major role of GABA controlled Substantia nigra pars reticulata has been demonstrated.(6)

Drug-induced-parkinsonism commonly affects the upper limbs and only sometimes involves face, jaw, neck and other body parts.(1,6) It is still not clear why drug-induced-parkinsonism shows preference for some body parts.(6) One probable reason may be the neuro-circuitry of Cortico-Striato-thalamo-cortical loops. Since the striatum has topographical reciprocal connections with the cortex through thalamus(7), it is possible that a particular group of neurons gets blocked in each individual, affecting different body parts in drug-induced-parkinsonism.(6) Though we could not find any report of drug-induced-parkinsonism presenting as isolated jaw tremors in humans, jaw tremors as a sign of drug-induced-

parkinsonism has been described in rats.(6)

In conclusion, although jaw tremors are a rare presentation, all clinicians dealing with drug induced movement disorders must recognize them at the earliest for appropriate management. Examination of such cases may help in understanding the pathophysiology of Parkinson's disease

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