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Available online at: http://www.iajps.com *A Case Report*

# LEVOSULPIRIDE INDUCED MOVEMENT DISORDER

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**Abstract:**

*Levosulpiride is an enantiomer of the sulpiride with antidopaminergic activity at D2 receptor and agonistic activity at 5HT4 receptors. It is a newer prokinetic agent and is extensive use in India by general physicians. The major side effects related to Levosulpiride is Parkinsonism, tremors, tardive dyskinesia, hyperprolactinemia, hypotension and weight gain. This case report we want to highlight extrapyramidal syndrome due to Levosulpiride.*

***Key words:*** *Levosulpiride, Parkinsonism, Extrapyramidal symptoms*

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## INTRODUCTION:

Levosulpiride and proton pump inhibitors (PPI) are widely prescribed in India. Levosulpiride is the levorotatory enantiomer of sulpiride, with selective inhibition on central and enteral D2 receptors. (1) It is widely used for various gastrointestinal disorders like irritable bowel syndrome, gastroesophageal reflux disease, dyspepsia and also as a pro kinetic agent. It is also a mood elevator, used in the treatment of psychiatric disorders such as schizophrenia, anxiety disorders and vertigo (2). Though motor side effects like Parkinsonism, tardive dyskinesia, tremors and muscular dystonias are noted, they are often overlooked as a side effect of levosulpiride. Non motor side effects include hyperprolactinemia, postural hypotension, weight gain, QT prolongation and elevated liver transaminases. Here we report a case report of patient with Levosulpiride induced extrapyramidal symptoms.

## CASE REPORT:

82-year-old gentleman, a known patient of Type 2 Diabetes mellitus and Systemic hypertension on regular medications, presented with complaints of chills and increased frequency of micturition since 1 week prior to admission. There was no history of fever, vomiting or abdominal pain. He had a recent history of Urinary tract infection and was treated with IV antibiotics (Cefoperazone+ Sulbactam).

On examination, vitals were stable. CNS examination revealed resting tremors on both hands, cogwheel rigidity, positive palmomental reflex, positive glabellar tap, stooped posture and festinant gait. Higher mental functions, cranial nerve examination, sensory system was essentially normal. Other system examination did not reveal any significant abnormalities.

Routine laboratory investigations showed anemia (Hb -9.9g/dl) with elevated Erythrocyte sedimentation rate (75mm/hr), hyponatremia (Na-129 mmol/L) and renal dysfunction (Creatinine - 2.30mg/dl). His Liver function test was normal. Urine routine showed pyuria and culture was sterile.

Detailed history regarding the past medications revealed that he was on multiple drugs for dyspepsia for the past 1 year and it also included Rabeprazole + Levosulpiride with a dose of 20mg/75 mg. Levosulpiride was discontinued, following which there was remarkable reversal of symptoms after 2 weeks.

## DISCUSSION:

Levosulpiride is used in the treatment of patients with refractory dyspepsia, in which PPIs yielded no relief. It controls gastrointestinal motility through its action on dopaminergic and serotonergic pathways. Symptoms related to gastric emptying pattern like epigastric discomfort, postprandial fullness, bloating, nausea, vomiting and early satiety were more improved with Levosulpiride treatment. (3). Levosulpiride selectively inhibits D2 receptors with moderate agonistic action on 5-HT4 receptor. The D2 receptor action occurs in both central and periphery. The central inhibition of D2 receptors exerts antiemetic property while action on neuronal and muscular D2 receptor blockade in the gastrointestinal system asserts the prokinetic action. (4) Central inhibition produces unnecessary adverse effects like hyperprolactinemia and dystonia's. The plasma t ½ of the agent is 6-8 hours. It remains unmetabolized and excreted in urine unchanged.

The second leading cause of Idiopathic Parkinson's disease is drug induced Parkinsonism. A community and population-based survey found out that drug induced Parkinsonism prevalence rates of 2.7% and 1.7% respectively, whereas those of Parkinsonism were 3.3% and 4.5% respectively. Shin et al identified 91 patients with Levosulpiride induced movement disorders over a period of 6 years, among them Levosulpiride induced Parkinsonism is the most common (93.4%) followed by tardive dyskinesia (9.9%) and isolated tremors (3.8%). (5)Thomas et al, and Jacob Joe suggested that most of the patients developed Parkinsonian features within 4 days to 1 week after beginning therapy. (6.7).

Drugs which impair dopamine function causes parkinsonian syndrome which can be reversible by withdrawing the offending agent. Reversible levosulpiride induced movement disorder may be defined as the complete absence of abnormal involuntary movement after cessation of the agent, while as irreversible Levosulpiride induced movement disorder defined as the persistence or recurrence of the abnormal movements after discontinuation of the agent.

While evaluating a new case of Parkinsonism or Parkinson's plus syndromes, a thorough drug history is vital and if an inciting drug is identified prompt withdrawal of drug is recommended.

## CONCLUSION:

Clinicians should be very cautious in using Levosulpiride especially in the geriatric patients as it could be an inciting agent to cause movement disorder in a population who is already predisposed to the same, Drug history is vital while evaluating a patient with extrapyramidal symptoms.

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