

**RISPERIDONE INDUCED PARKINSONISM****Persis Johnson<sup>1\*</sup>, Nivil Joseph<sup>1</sup>, Neethu George<sup>1</sup> and Jisna Thomas<sup>1</sup>**

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**ABSTRACT**

Risperidone, an antipsychotic drug which is used to treat schizophrenia and symptoms of bipolar disorder. Drug induced Parkinsonism is the second most common cause of Parkinsonism. Herein we have a case of risperidone induced Parkinsonism. A 25year male patient developed pill rolling tremor of upper limb more in right hand and rigidity in both upper limbs after taking the drug. The patient is a known case of mood disorder since 6 months and took risperidone 1.5mg twice daily. The symptoms persisted for several days even after stopping the drug. Based on his clinical presentation, we assume that the condition was result of risperidone. Causality assessment was also suggestive of a probable relationship between patient's symptoms and use of risperidone. The clinical features of drug induced Parkinsonism and

Parkinson's disease are misdiagnosed as they appear to be indistinguishable. But the clinical manifestations of drug induced Parkinsonism is characterized as bilateral and symmetric Parkinsonism without tremor at rest.

**KEYWORDS:** Risperidone, Drug induced Parkinsonism, Parkinsonism Disease, Antipsychotic drug, Tremor.

**INTRODUCTION**

Drug-Induced Parkinsonism (DIP) tends to be the second most common etiology of Parkinsonism in the elderly after Parkinson's disease (PD). Risperidone was expected to have a minimal risk because it has a high affinity for serotonin receptors. But it binds D2 receptors in a dose dependent manner and thus inducing Parkinsonism.<sup>[1]</sup> However, it is still an under-recognized condition with significant impact on quality of life; especially in the elderly population.<sup>[2]</sup> Parkinsonism induced by anti-psychotics occurs between few days and up to

several months after the initiation of treatment. It has been reported that high doses of risperidone causes parkinsonism.<sup>[3]</sup> we report a case of Parkinsonism in a 25year male patient who had no previous history of drug allergies and was caused by risperidone only. The aim of this case report is to provide clinicians with updated information and for cautious prescribing of this drug.

### CASE DESCRIPTION

A 25 year old male, with a weight of 77.3kg was admitted to the psychiatry department of a tertiary care hospital with complaints of excessive activity levels with over-familiarity and irritability from the past 1.5 months. The patient also had pill-rolling tremor of upper limb more in right hand and rigidity in both upper limbs. His psychiatric history was significant of mood disorder since 6 months and took risperidone 1.5mg twice daily which lead to the development of symptoms similar to DIP. On mental examination, he denied having audiovisual hallucination, excessive activity levels with over-familiarity, irritability and euphoric effects. On physical examination, he was found to have pill-rolling tremor of upper limb more in right hand and cogwheel rigidity and bradykinesia. There was no past history of drug or substance abuse. The patient didn't have tremor at rest. There was no any familial history for the same. The symptoms persisted for days even after stopping the drug. He was admitted to the in-patient department and diagnosed as risperidone induced Parkinsonism. He was rechallenged with an alternative drug; tablet quetiapine extended release (XR) 50mg orally once daily for four days and does not report any reoccurrence of the symptoms. Using Naranjo's criteria to determine the causality for suspected Adverse Drug Reaction(ADR) and Hart wig's Severity assessment scale for assessing the severity the suspected ADR was found to be "probable" and moderate(level 3) respectively.

### DISCUSSION

The extrapyramidal side effects (EPS) are more with risperidone than with olanzapine,ziprasidone, arpiprazole,quetiapine and clozapine among all atypical antipsychotics and the symptoms may persist for a long period of time even after the cessation of the drug. The incidence rate for DIP is unclear but it is often misdiagnosed as PD. All patients taking anti-psychotics have some chances of developing Parkinsonism.<sup>[4]</sup> It's very difficult to differentiate PD and DIP in the early stages of the disease. A marked evidence is that DIP is a non-degenerative condition wherein the symptoms may resolve on discontinuation of the drug.<sup>[5]</sup> The risk factors that can probably lead to the development of

DIP can be the medication's dose, age, history of dementia, HIV infection, female gender and the familial PD. When the dose of the offending agent is higher and the rate of dose escalation is rapid it may lead to the greater incidence of DIP. Risperidone at higher doses can have an impact in developing DIP.<sup>[6]</sup> For a better prognosis prompt recognition of the DIP, discontinuation of the offending drug and prevention which remains the most important strategy. Remission of the symptoms is for sure with the discontinuation of the offending drug. If not recognized DIP can be disabling, persistent, unremitting.<sup>[7]</sup>

In this case, the symptoms persisted for several days even after stopping the drug. Risperidone 1.5mg twice daily was given to the patient. The symptoms found similar to DIP wherein there was no tremor at rest and took several days to resolve.

## CONCLUSION

Although DIP found to be rare and often misdiagnosed and uninterpreted, several studies suggests that antipsychotics have a much greater incidence in developing DIP. A timely better recognition will of course leads to a better prognosis. This case report of risperidone induced Parkinsonism will add a note to the existing data. This may also create awareness in health care professionals on the various etiologies behind. Also they should be aware of identification and promptly reporting of ADR in order to have a better patient care.

## ABBREVIATIONS USED

ADR : Adverse Drug Reaction  
DIP : Drug Induced Parkinsonism  
PD : Parkinson's disease  
EPS : Extra Pyramidal Side Effects

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