



## MOVEMENT DISORDER SEEN IN A PATIENT ON MIRTAZAPINE: A CASE REPORT

<b>Dr. Surabhi Sharma</b>	Senior Resident, Department of Psychiatry and De-addiction, Lady Hardinge Medical College and SK Hospital, New Delhi
<b>Dr. Sushil Kumar Rohiwal</b>	Associate Professor (Clinical Psychologist), Department of Psychology, UILAH, Chandigarh University, Punjab
<b>Dr. Prerak Kumar*</b>	Senior Resident-2 (DM) - Department of Geriatric Mental Health, KGMU, Lucknow.*Corresponding Author

**ABSTRACT** Extrapyramidal symptoms or movement disorders are very rarely seen with antidepressants specially, mirtazapine. Mirtazapine generally shows cervical truncal dystonia as early manifestations, tremors are seen with mirtazapine but not in many cases. Mirtazapine is considered safe in terms of side effects like motor disorders or involuntary movements, recent studies showed its efficacy in treating akathisia, in Parkinsonism and other motor issues in old ages. We present a rare picture of symptoms like hypersalivation, rigidity and bilateral tremors in a patient who was drug naïve and started on mirtazapine for his mixed anxiety depressive symptoms.

### KEYWORDS :

#### INTRODUCTION

Mirtazapine classified as Nor Adrenergic and Specific Serotonin Antagonist class antidepressant is considered to be useful in cases of depression with sleep issues, it is safe drug as per literature in treating involuntary motor disorders, hyperkinetic disorders and other neurological disorders including akathisia<sup>1,2</sup> Few studies depicted that some individuals are intolerant to mirtazapine and they may develop symptoms like axial dystonia, and sleep issues.<sup>3</sup> Very few studies showed that hypersalivation and bilateral tremors seen with mirtazapine or other movement disorders like chorea are rarely associated with mirtazapine.<sup>4</sup> Here we describe a rare such presentation of increased salivation and tremors in subject who was prescribed mirtazapine.

#### Case Description

A 45-year-old male patient name X, came to Psychiatry OPD first time, with symptoms of decreased sleep, sadness, lethargy, weakness, anhedonia from 2 months continuously, his HAMDs score came to be 15 showing mild to moderate severity, he was admitted in ward for investigations and was started on T Mirtazapine 7.5 mg HS and C Omeprazole 20 mg OD before meals. His Investigations CBC, Hb 12.8 mg/dl, S TSH- 4.8 mIU/l, LFT normal, RFT normal and urine routine normal. On the 4th day of ward, patient reported increased salivation, difficulty in taking food, mild choking sensations, on Examination mild tremors on extended hands were observed, although sleep was normal. We took a Neurology reference, they advised CPK and S electrolytes, adv T Propranolol 20mg for tremors. His CPK and S electrolytes came normal, we decreased Mirtazapine to half-HS. After 2 days salivation was mildly decreased but tremors were still there. T Propranolol was increased to 40 mg. For Salivation we added THP 1mg tab half od. For the next 2 days patient tremors were very mildly reduced, salivation was reduced but choking sensation was still there. HAMDs score came 10 on 9th day of admission, patient was discharged, On Tab Mirtazapine 3.75 mg hs, Propranolol 40mg Od and Omeprazole 20mg Od. On Follow up after 2 weeks tremors were still there, salivation improved. Patient was shifted to Escitalopram 10mg Od and the same dose of Propranolol with follow up of 10 days. On the next visit patient tremors were not seen, no salivation. Patient was continued on Escitalopram and Propranolol for 1 month. On the next visit no motor symptoms were seen in the patient and HAMDs score came to be 3. Patient did not have a regular follow up after that.

#### DISCUSSION

Literature regarding antidepressants and association of Extrapyramidal motor symptoms is not precisely defined, one proposed hypothesis is increased serotonin availability in synapse may inhibit dopamine release which may produce motor symptoms like tremors and akathisia.<sup>5</sup> Some past nested studies found an association between movement disorders with various antidepressant like duloxetine, venlafaxine, escitalopram and mirtazapine, mirtazapine

was mainly associated with akathisia unlike as we saw tremors with mirtazapine in our clinical patient.<sup>6</sup> Mirtazapine was more associated with symptoms of akathisia in patients treated for depression unlike in our patient which showed hypersalivation and tremors bilaterally.<sup>7</sup> Studies showed very little association of tics and tremors with antidepressants mainly found with SSRIs sertraline, fluoxetine, paroxetine unlike tremors associated with Mirtazapine in our case.<sup>8</sup> Mirtazapine is generally considered safe in old cases with depression but very rarely it may cause tremors and psychic restlessness because of action on alpha 2 adrenergic receptors in susceptible subjects as we saw tremors in our patient who might be susceptible with mirtazapine.<sup>9</sup> There is sparse literature which shows association of movement disorders tremors, chorea and parkinsonism symptoms with mirtazapine but in our patients tremors and hypersalivation were the main symptoms started within 5 days of starting mirtazapine.<sup>4</sup>

#### Conflicts of Interests- NIL.

#### REFERENCES

1. Raveendranathan D, Swaminath GR, Mirtazapine induced akathisia, understanding a complex mechanism. *Indian J Psychol Med* 2015;37:474-5.
2. Praharaaj SK, Kongasseri S, Behere RV, Mirtazapine for antipsychotic induced acute Akathisia. A systemic review and meta-analysis of randomised placebo controlled trials. *Ther Adv Psychopharmacol* 2015;5:307-13.
3. Pena E, Mata M, Lopez-Manzanares L, Kurtis M. Antidepressants in Parkinson's disease. Recommendations by the movement disorder study group of the neurological associations of Madrid. *Neurologia* 2016.
4. Yoon WT. Hyperkinetic movement disorders induced by mirtazapine, unusual case reports. *J Psychiatry* 2017;21:437.
5. Hawthorne JM, Caley CF. Extrapyramidal reactions associated with Serotonergic antidepressants. *Ann Pharmacother*. 2015; 49:1136-52.
6. Guo MY, Etmnan M, Kim DD. Association of Antidepressant use with Extrapyramidal symptoms. A Pharmacoepidemiological stud. *J Clin Psychopharmacol*. 2018;38:349-56.
7. Markoula S, Lagos G, Konitsiotis S. Akathisia induced by Mirtazapine after 20 years of continuous treatment. *Clin Neuropharmacol*. 2010;33:50-1.
8. Altindag A, Yanik M. The emergence of tics during escitalopram and sertraline treatment. *Int Clin Psychopharmacol*. 2005;20:177-8.
9. Raveendranathan D, Swaminath GR, Mirtazapine induced akathisia, understanding a complex mechanism. *Indian J Psychol Med* 2015;37:474-5.