ORIGINAL RESEARCH

Assessment of efficacy of mirtazapine in depression

Dr. Vishal Damodhar Wahane

Assistant Professor, Department of Pharmacology, Gold Field Institute of Medical Sciences, Faridabad, Haryana, India

Corresponding Author
Dr. Vishal Damodhar Wahane
Assistant Professor, Department of Pharmacology, Gold Field Institute of Medical Sciences, Faridabad, Haryana, India

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ABSTRACT

Background: Depression is a mental health disorder characterized by persistent feelings of sadness, hopelessness, and a loss of interest in activities that were once enjoyable. The present study was conducted to assess the efficacy of mirtazapine in depression. **Materials & Methods:**50 patients diagnosed with depression of both genderswere divided into two groups. In Group A (n=30) patients received conventional SSRIs for 6 weeks. In Group B (n=30) patients received conventional SSRIs with low-dose mirtazapine for 6 weeks. Patients were evaluated at baseline and 6 weeks. **Results:** In group I, males were 12 and females were 13 and in group II, males were 11 and females were 14.HDRS score in group I and II at baseline found to be 20.5 and 20.6 and at 6 weeks was 10.2 and 7.4 respectively. MADRS score at baseline was 28.5 and 28.6 and at 6 weeks was 14.2 and 11.3 respectively. ADI score at baseline was 19.7 and 18.3 and at 6 weeks was 8.9 and 6.7 respectively. The difference was significant ($P< 0.05$). **Conclusion:** When compared to the baseline, the HDRS, MADRS, and ADI scores in both therapy groups significantly decreased. Patients receiving additional low-dose mirtazapine, however, experienced an earlier onset of action and better response as compared to SSRI alone.

Keywords: Depression, mental health,mirtazapine

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INTRODUCTION

Depression is a mental health disorder characterized by persistent feelings of sadness, hopelessness, and a loss of interest in activities that were once enjoyable. It can affect how a person thinks, feels, and handles daily activities, and it may also manifest physically with symptoms such as changes in appetite or sleep patterns, fatigue, and physical aches or pains.[1]

Underreporting depression and not seeking treatment for it have serious repercussions. For example, depression is the primary risk factor for suicide, which accounts for around 0.85 million deaths per year and ranks among the top three causes of death for young people between the ages of 15 and 35.[2] Tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), and selective serotonin reuptake inhibitors (SSRIs) are the current treatments for depression. These days, it is not recommended to take TCAs or MAOIs due to their unfavorable impact profiles and risky dietary interactions, respectively. Nowadays, SSRIs are the most often prescribed antidepressants due to their increased tolerance and safety.[3]

A noradrenergic and specific serotonergic antidepressant (NASSA), mirtazapine is an atypical antidepressant that functions as a structural analogue of serotonin and has strong antagonistic effects at several postsynaptic serotonin receptor types, such as 5-HT2A, 5-HT2C, and 5-HT3 receptors.[4] It can also gradually down-regulate 5-HT2A receptors. Additionally, it restricts the efficacy of 5-HT2A heteroceptors and inhibitory α2 autoreceptors on noradrenergic neurons, as well as inhibitory α2 adrenergic heteroceptors on serotonergic neurons.[5] This impact might increase amine release and support the antidepressant properties. In addition to being a strong histamine H1 receptor antagonist, mirtazapine also has a mildly sedative effect.[6,7]The present study was conducted to assess the efficacy of mirtazapine in depression.

MATERIALS & METHODS

The present study consisted of 50 patients diagnosed with depression of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Patients were divided into two groups. In Group A

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(n=30) patients received conventional SSRIs for 6 weeks. In Group B (n=30) patients received conventional SSRIs with low-dose mirtazapine for 6 weeks. Patients were evaluated at baseline and 6 weeks.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I (25)	Group II (25)
Drug	SSRIs	SSRIs + mirtazapine
M:F	12:13	11:14

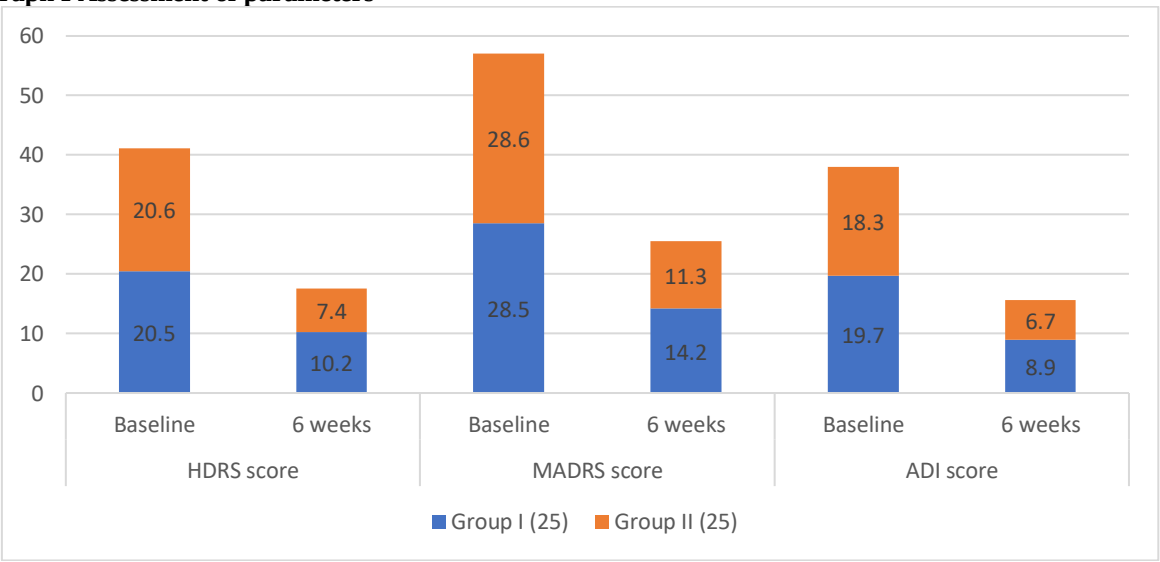
Table I shows that in group I, males were 12 and females were 13 and in group II, males were 11 and females were 14.

Table II Assessment of parameters

Parameters	Period	Group I (25)	Group II (25)	P value
HDRS score	Baseline	20.5	20.6	0.03
	6 weeks	10.2	7.4	
MADRS score	Baseline	28.5	28.6	0.01
	6 weeks	14.2	11.3	
ADI score	Baseline	19.7	18.3	0.04
	6 weeks	8.9	6.7	

Table II, graph I shows that HDRS score in group I and II at baseline found to be 20.5 and 20.6 and at 6 weeks was 10.2 and 7.4 respectively. MADRS score at baseline was 28.5 and 28.6 and at 6 weeks was 14.2 and 11.3respectively. ADI score at baseline was 19.7 and 18.3 and at 6 weeks was 8.9 and 6.7 respectively.The difference was significant (P< 0.05).

Graph I Assessment of parameters



DISCUSSION

Depression can present with a variety of symptoms, which may vary from person to person.[8] Common symptoms include persistent sadness or feeling "empty", loss of interest or pleasure in activities, changes in appetite or weight, difficulty sleeping or oversleeping, fatigue or loss of energy, feelings of worthlessness or guilt, difficulty concentrating or making decisions and thoughts of death or suicide.[9,10]Depression can be caused by a combination of genetic, biological, environmental, and psychological factors. It may be triggered by stressful life events, trauma, chronic illness, or imbalances in brain chemicals called neurotransmitters.[11]There are different types of depression, including major depressive disorder, persistent depressive disorder (dysthymia), bipolar disorder (which includes periods of depression and mania), seasonal affective disorder (SAD), and postpartum depression (which occurs after childbirth).[12]

We found that in group I, males were 12 and females were 13 and in group II, males were 11 and females were 14. Matreja et al[13]studied the add-on effect of low-dose mirtazapine with selective serotonin reuptake inhibitors (SSRIs) in major depressive disorder (MDD) in Indian population.In an open, randomized study, 60 patients were divided into two groups. In Group A (n=30) patients received conventional SSRIs for 6 weeks. In Group B (n=30) patients received conventional SSRIs with low-dose

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mirtazapine for 6 weeks. Patients were evaluated at baseline and then at 1, 2, 3, 4, 5, and 6 weeks.There was significant improvement in Hamilton Depression Rating Scale (HDRS), Montgomery and Asberg depression rating scale (MADRS) scores ($P<0.05$) in both groups. Mirtazapine in low dose as add on therapy showed improvement in scores, had earlier onset of action, and more number of responders and remitters as compared to conventional treatment ($P<0.05$). No serious adverse event was reported in either of the groups.

We found that HDRS score in group I and II at baseline found to be 20.5 and 20.6 and at 6 weeks was 10.2 and 7.4 respectively. MADRS score at baseline was 28.5 and 28.6 and at 6 weeks was 14.2 and 11.3 respectively. ADI score at baseline was 19.7 and 18.3 and at 6 weeks was 8.9 and 6.7 respectively.Papakostas et al[14] in their study 1904 MDD outpatients were randomly assigned to receive mirtazapine treatment had an equal chance of seeing a clinical response as those who were assigned to receive an SSRI medication. Mirtazapine had a response rate of 67.1% and the SSRIs had a response rate of 62.1% when the response rates from the two drugs were simply pooled. The discontinuation rates for adverse events, lack of efficacy, and total discontinuation rates did not differ between the two groups. During treatment, fewer patients receiving mirtazapine reported experiencing insomnia, nausea, and fatigue, excessive sleepiness, weight-gain, or dry mouth. These findings imply that while the side-effect profiles of mirtazapine and the SSRIs vary, their overall effectiveness in treating MDD remains the same.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that when compared to the baseline, the HDRS, MADRS, and ADI scores in both therapy groups significantly decreased. Patients receiving additional low-dose mirtazapine, however, experienced an earlier onset of action and better response as compared to SSRI alone.

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