

THE INTERNATIONAL JOURNAL OF SCIENCE & TECHNOLEDGE

A Comparative Study on Treatment Efficacy of Zotepine and Quetiapine in Psychotic Patients

Dr. U. Raghava Rao

Assistant Professor, Department of Psychiatry, Siddhardha Medical College, Vijayawada, Andhra Pradesh, India

Dr. K. V. Ramireddy

Associate Professor, Department of Psychiatry, Andhra Medical College, Visakhapatnam, Andhra Pradesh, India

Dr. Prasanth Ampalam

Assistant Professor, Department of Psychiatry,
Maharaja Institute of Medical Sciences, Vizianagaram, Andhra Pradesh, India

Dr. K. V. M. Sai Lahari

Post Graduate, Department of Psychiatry, Andhra Medical College, Visakhapatnam, Andhra Pradesh, India

Abstract:

Zotepine is an antipsychotic used in Japan and Europe for years and recently being introduced in Indian markets. It is claimed to be effective for positive and negative symptoms. Zotepine's primary use is as a treatment for schizophrenia and effective as an antimanic agent in patients with acute bipolar mania. We conducted this study to assess the treatment efficacy of Zotepine Vs Quetiapine in Psychotic patients. It is a randomized, Comparative, Prospective study. The study period is six months that is from July, 2013 to December, 2013. Total study population is 170 subjects. 85 patients were prescribed Zotepine and other 85 patients were prescribed Quetiapine. From this study we conclude that Zotepine has a good treatment efficacy compared to Quetiapine in treatment of psychotic disorders. Sedation was more with Zotepine whereas EPS and weight gain are less when compared to Quetiapine which is statistically significant.

Keywords: Schizophrenia, Mania, Zotepine, Quetiapine

1. Introduction

Schizophrenia is a clinical syndrome of variable, but profoundly disruptive, psychopathology that involves cognition, emotion, perception, and other aspects of behavior. Clinicians should appreciate that the diagnosis of schizophrenia is based entirely on the psychiatric history and mental status examination. There is no laboratory test for schizophrenia. Mood disorders can occur in any age. Zotepine and Quetiapine are some of the Atypical Anti-Psychotic drugs being used in India. Zotepine is an antipsychotic used in Japan and Europe for years and recently being introduced in Indian markets¹. It is claimed to be effective for positive and negative symptoms². Zotepine's primary use is as a treatment for schizophrenia and effective as an antimanic agent in patients with acute bipolar mania³. The antipsychotic effect mediated through antagonist activity at dopamine and serotonin receptors. Zotepine has a high affinity for the D1 and D2 receptors, 5-HT_{2A}, 5-HT_{2C}, 5-HT₆, and 5-HT₇ receptors. Its active metabolite, norzotepine, serves as a potent norepinephrine reuptake inhibitor. Quetiapine has affinity for D₂, 5-HT_{2A}, H₁, alpha 1 and 5-HT_{1A} receptors. Antipsychotic effects in Schizophrenia are related to the drug's ability to reduce dopaminergic neurotransmission in the mesolimbic pathway. It has higher affinity for 5-HT_{2A} receptors than D₂ receptors. It is used in Bipolar Affective Disorders (BPAD) as well. In this study we have tried to see the efficacy and adverse events of these two drugs in a randomized population.

2. Aim

To assess the treatment efficacy of Zotepine Vs Quetiapine in Psychotic patients.

3. Hypothesis

Zotepine has a good treatment efficacy compared to Quetiapine in treatment of psychotic disorders.

4. Methodology

It is a randomized, Comparative, Prospective study. The study period is six months that is from July, 2013 to December, 2013. Total study population is 170 subjects.

- Inclusion Criteria: The diagnoses of Schizophrenia, Mania and Delusion disorder were made following ICD-10 criteria.
- Exclusion Criteria: Late onset Schizophrenia, Mania with psychosis.

- Study tools and Variables: Age, sex, weight, Positive and Negative Syndrome Scale (PANSS), Young’s mania Rating Scale, Simpson-Angus Neurologic Rating Scale(SAS).
- Procedure of data collection: Male and female patients aged between 18 to 40 yrs were recruited into the study . After taking written informed consent they were randomly assigned into two groups. 85 patients were prescribed Zotepine and other 85 patients were prescribed Quetiapine. All the patients were under care of a parent or another adult caregiver who monitored medication intake during each day to monitor adherence. Baseline recording of weight, rating scales done on day one of study. Follow-up visits were scheduled every two weeks. Young’s Mania Rating Scale was administered after every two weeks. PANSS, SAS and Change in weight recorded after every one month.Zotepine initial dose was 150mg and administered at maximum dose of 300mg depending on the need of patient with maintenance dose of 25mg. Quetiapine initial dose was 50mg and escalated up to maximum dose of 250mg with maintenance dose of 50mg.

5. Statistical Analysis & Results

Data was analyzed using SPSS. Descriptive statistics were used for the analysis. In the total of 170 patients, half of them were randomly assigned to receive Zotepine and other half to Quetiapine. Patient caretakers were enquired regarding drug compliance. Mean age of subjects in Zotepine group is 30.2yrs, and that of Quetiapine is 27.78 yrs. (Fig.1). In the Zotepine group there were 60 males and 25 females whereas in Quetiapine group males were 73 and females were 12 (Fig.2). In Zotepine group there were 63 cases with diagnosis of schizophrenia, 22 cases with a diagnosis of mania whereas in Quetiapine group 45 cases and 40 cases recruited respectively (Fig-3). The Mean duration of improvement in symptoms using PANSS with Zotepine is 2.6months and Quetiapine is 4.6months. The group with Zotepine has shown improvement in symptoms two months earlier when compared to the group with Quetiapine. Remission rates occurred earlier with Zotepine. Mean duration of improvement in symptoms in Mania by Young’s Mania Rating Scale in group with Zotepine is 2.5 weeks whereas in Quetiapine, it is 4.1 weeks. Young’s Mania Rating Scale Score improved one and half weeks earlier in patients with Zotepine. Zotepine has better treatment efficacy when compared to Quetiapine which is statistically significant (Fig.4).

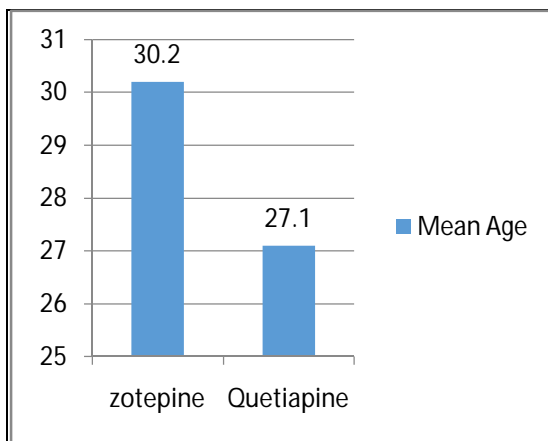


Figure 1

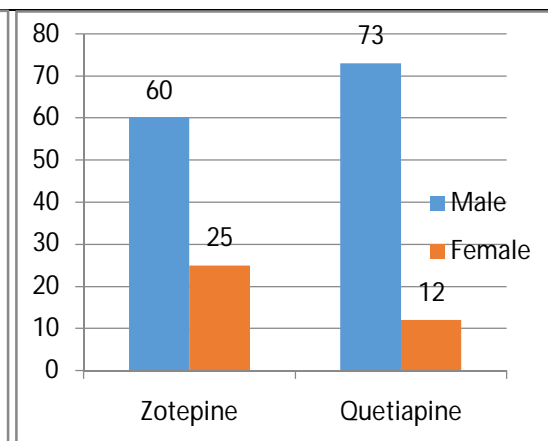


Figure 2

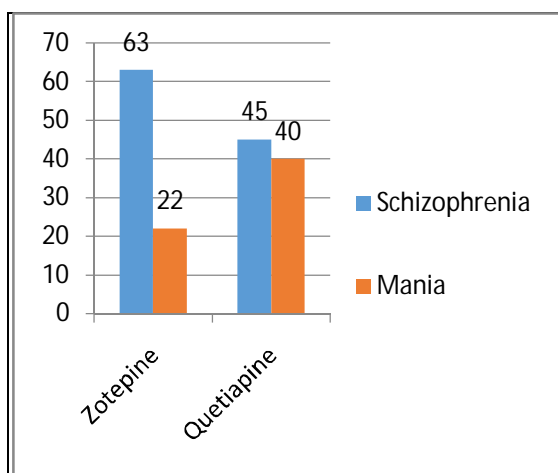


Figure 3

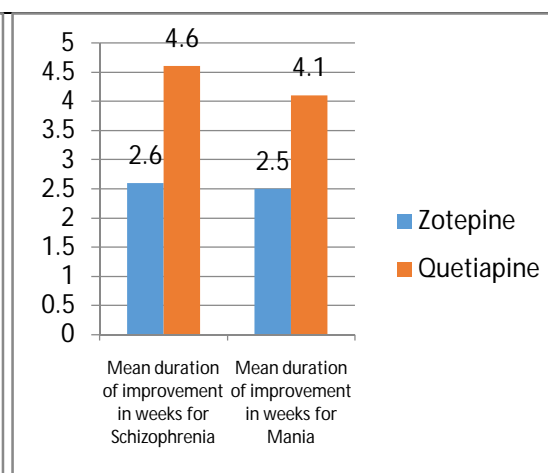


Figure 4

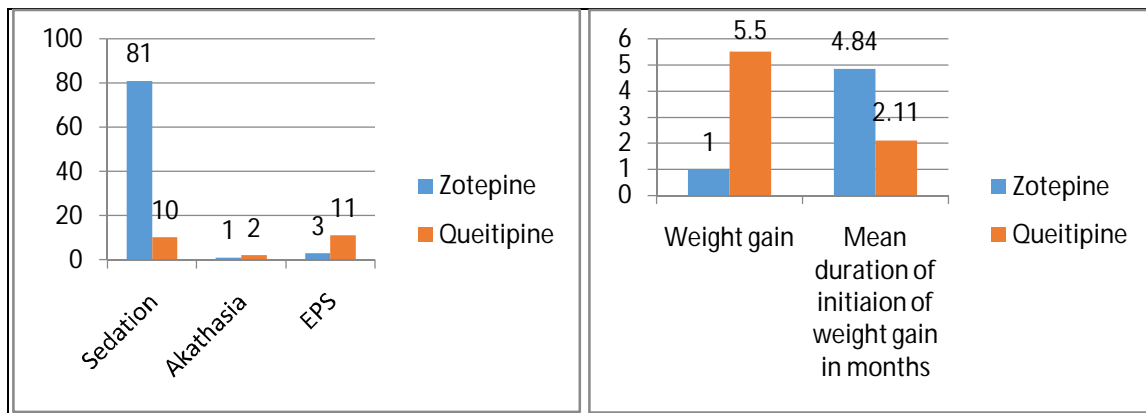


Figure 5

Figure 6

The adverse effects observed with Zotepine are Sedation in 81 patients, extra pyramidal signs (EPS) in 3 patients, akathasia in 1 patient and weight gain of 1 Kg over 6 months period. The adverse effects observed with Quetiapine are sedation in 10 patients, extra pyramidal signs (EPS) in 11 patients, akathasia in 2 patients, and weight gain of 5-6Kg over study period. Mean time of initiation of weight gain with Zotepine is 4.84 months and Quetiapine is 2.11 months. (Fig.5 & 6)

6. Discussion & Conclusions

We have undertaken this study as the data was limited on Zotepine, more so in Indian scenario. Out of the 170 patients recruited in the study, the patients with Zotepine have shown early improvement of symptoms than patients with Quetiapine. This finding is consistent in patients with diagnosis of schizophrenia as well as mania. From this our hypothesis that 'Zotepine has a good treatment efficacy compared to Quetiapine in treatment of psychotic disorders' is proved. This may be related to either the unique ability of Zotepine to block Noradrenaline (NA) uptake, or to its more marked affinity for D(2) receptors⁴. Previous studies emphasize on efficacy of Zotepine in psychotic disorders⁵.

Though there are multiple studies comparing the adverse events profile of various second generation anti psychotics⁶ the head to head comparison studies of Zotepine and Quetiapine are sparse. Individual studies provide fewer side effects with Zotepine group⁷. Zotepine has better treatment efficacy when compared to Quetiapine. In our study Sedation was more with Zotepine whereas EPS and weight gain are less when compared to Quetiapine which is statistically significant.

7. Limitations

Relatively small number of sample inhibits to generalize the findings. Other adverse effects were not taken into consideration. Other medical conditions were not considered. Pharmacokinetic interactions with other medications were not examined.

8. References

1. Tolerability of zotepine in Indian patients: Preliminary experience Ram Jeevan Bishnoi and Venu Gopal Jhanwar Ind Psychiatry J. 2010 Jul-Dec; 19(2): 130–131.
2. Review: zotepine was as effective as typical and other atypical antipsychotics and more effective than placebo in schizophrenia; Fenton M, Morris S, De Silva P, et al.. Zotepine for schizophrenia.. Cochrane Review, latest version 27 Oct 1999. In: Cochrane Library
3. Zotepine loading in acute and severely manic patients: a pilot study. Amann B, Sterr A, Mergl R, Dittmann S, Seemüller F, Dobmeier M, Orth M, Schaefer M, Grunze H Bipolar Disord. 2005 Oct; 7(5):471-6.
4. Pharmacol Biochem Behav. 2004 Jan;77(1):163-73. Stimulus properties of the "atypical" antipsychotic zotepine in rats: comparisons with clozapine and quetiapine. Goudie AJ, Smith JA, Cole JC.
5. A comparison of an atypical and typical antipsychotic, zotepine versus haloperidol in patients with acute exacerbation of schizophrenia: a parallel-group double-blind trial. Petit M, Raniwalla J, Tweed J, Leutenegger E, Dollfus S, Kelly F Psychiatry Department, University of Rouen, France. Psychopharmacology Bulletin [1996, 32(1):81-87]
6. Second-Generation Antipsychotic Drugs and Extrapyramidal Side Effects: A Systematic Review and Meta-analysis of Head-to-Head Comparisons Christine Rummel-Kluge*, Katja Komossa1, Sandra Schwarz, Heike Hunger, Franziska Schmid, Werner Kissling, John M. Davis and Stefan Leucht; Schizophr Bull (2010) doi: 10.1093/schbul/sbq042
7. Expert Opin Drug Saf. 2010 Jul;9(4):659-66. doi: 10.1517/14740338.2010.486787. Safety evaluation of zotepine for the treatment of schizophrenia. Riedel M, Musil R, Seemüller F, Spellmann I, Möller HJ, Schennach-Wolff R.