CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

http://doi.org/10.5281/zenodo.4264504

Avalable online at: http://www.iajps.com *Research Article*

CLINICAL EFFICACY OF PAROXETINE IN COMBINATION WITH OLANZAPINE TO TREAT SCHIZOPHRENIA

Dr Ayesha Javed, Dr Ujala Shahid, Dr Muhammad Asad Asif

Mayo Hospital Lahore

Article Received: September 2020 **Accepted:** October 2020 **Published: November** 2020

Abstract:

Objective: *To examine the clinical effectiveness of paroxetine in combination with olanzapine for the treatment schizophrenia along with depression.*

Methodology: *A sum of 60 elderly patients of schizophrenia with depression who got admission in hospital from May 2018 to March 2020 were the participants of this research work and we randomly divided these subjects into OG (Observation Group) and CG (Control Group) with the use of the random number table, with 30 patients in every group. We treated the patients of CG with olanzapine orally, whereas the patients of CG got treatment with olanzapine in combination with paroxetine orally. Level of Hcy (Homocysteine) in the patients of both groups was examined prior and after the treatment. HAMD (Hamilton Depression) score and PANSS (Positive & Negative Symptoms Scale) were in use for the evaluation of the efficacy of the treatment. We also compared the adverse effects of the treatment on the patients of both groups.*

Results: *After the treatment, Hcy level in serum in the patients of OG was much lower as compared to the patients of CG ($P<0.050$), and it was very close to the normal values. We found no difference in the PANSS score between the patients of both groups before the start of treatment ($P>0.050$). After the completion of treatment, PANSS and negative factor scores in the patients of OG were much low as compared to the patients of CG and this difference was much significant statistically ($P<0.050$). There was no significant difference in the HAMD score in the patients of both groups before treatment ($P>0.050$). After the treatment, HAMD scores of the patients of OG was much low as compared to the patients of CG ($P<0.050$). There was no significant difference in the prevalence of adverse reactions between the patients of both groups ($P>0.050$).*

Conclusion: *Paroxetine in combination with olanzapine has a positive clinical impact on the treatment of schizophrenia present along with depression. It can efficiently decrease the Hcy level in serum, relieve schizophrenia's symptoms and lessen the depressive symptoms present in patients, with much high safety.*

KEYWORDS: *Depression, Olanzapine, Efficacy, Paroxetine, Observation Group, Control Group.*

Corresponding author:

Dr. Ayesha Javed,

Mayo Hospital Lahore

QR code

Please cite this article in press Ayesha Javed et al, ***Clinical Efficacy Of Paroxetine In Combination With Olanzapine To Treat Schizophrenia.,*** *Indo Am. J. P. Sci, 2020; 07(11).*

INTRODUCTION:

One of the very common psychiatric diseases is schizophrenia. Pathogenesis of this abnormality is very complicate. There are different clinical manifestations of this complication as cognition impairment and disorder of effective thinking, which may have severed effects on the physical as well as psychological health of these patients and members of their family [1]. Reported stated that 18.0% to 68.0% patients suffering from schizophrenia will have the symptoms of depression which can influence the course of treatment [2]. It is acknowledged that depression is very important marker for the acute attack of the schizophrenia [3]. Elder population is at high risk for acquiring the schizophrenia which can be complicated with the prevalence of depression and it leads to difficulty in clinical treatment [4]. Recently, most important clinical treatment for this disease of schizophrenia complicated because of depression is drug control [5]. According to various clinical researches in this field, treatment with single drug is recommended [6]. In accordance with the research works in this particular literature [7], 26.10% psychiatric patients who obtained anti-psychotic therapies in China were underwent treatment with 2 or more than two anti-psychotic medicines. Olanzapine has the ability to lessen the symptoms of schizophrenia and it prevents from the incidence of any depressive disorder [8, 9]. One of the best anxieties and anti-depression drug is paroxetine [10]. It can improve the negative symptoms of the patients of schizophrenia. This current research work aimed to assess the effectiveness of paroxetine in combination with olanzapine to treat the schizophrenia present along with depression.

METHODOLOGY:

60 patients suffering from schizophrenics along with depression who got admission in Mayo Hospital Lahore from May 2018 to March 2020 were the participants of this research work. All the patients with fulfilling the CCMD-3 diagnostic criteria for diagnosis of schizophrenia [11], patients of more than 60 year of age and PANSS score as greater than sixty points and HAMD greater than eighteen points were the research subjects. All the patients suffering from other serious complications and females present with pregnancy were not included in this research work. We divided the 60 patients in Observation Group and Control Group with 30 patients in each group. There were 15 females and 15 males in Control Group with an average age of 69.58±2.68 and disease course from 2-12 years with average of 5.50±2.58 years. In Observation Group, there were 13 females and 17 males with an average age of an average age of 69.10±2.48 years and disease course were 2-11 years with an average of 5.10±2.78 years.

We treated the patients of CG with olanzapine tablets. We gave the initial dosage as 01 tablet of 10 mg per day. We evaluated the clinical symptoms and we gave two tablets to the patients present with severe condition and change it to single tablet after stabilization of condition. In combination with the treatment of CG, we gave the paroxetine tablets at breakfast time every day to the patients of OG. We treated the patients for complete eight weeks. Patients remained in full nursing care from admission time to end of the treatment. We also implemented the targeted psychological counseling according to the psychological and mental states of the patients. We also enhanced the mental health knowledge of the patients. We also guided the patients to overcome the weaknesses of their personality.

Prior and after the treatment we obtained two mL blood for detection of Hcy level in serum. We considered the 5-16 μmol/L as normal level. We also assessed PANSS prior and after the treatment. We used the international standard of scoring for PANSS and HAMD [12]. SPSS V.23 was in use for the statistical analysis and processing of collected information. We expressed the measurement data in averages and standard deviations and we used the t-test for the comparison of various variables of both groups. We expressed the counting data in percentage and we applied the x2 test for the comparison of both groups. P value of less than 0.050 was considered as significant.

RESULTS:

Before the treatment, there was not much difference in the Hcy level between the patients of both groups ($P>0.050$) but it was much higher than the normal value. After the treatment, there was significant decrease in the level of Hcy and the level of Hcy was much lower in the patients of OG as compared to the patients of CG and it was much close to normal values and we found a statistically significant difference between the patients of both groups ($P<0.050$, Table-1).

Table-I: Serum Hcy Level Between Two Groups Before and After Treatment (μmol/L).

Group	Observation group	Control group
Before treatment	22.55±3.59	23.22±3.46
After treatment	10.05±2.36*#	15.34±2.73*

Note: *meant that P<0.05 compared to before treatment; #meant that P<0.05 compared to the control group.

Before the treatment, we found no significant difference statistically in negative factors scores, positive factors score and general psycho-pathology between the patients of both groups (P>0.050). But after the treatment, we found no difference in positive factors scores and general psycho-pathology between the patients of both groups (P>0.050). we found the negative factors scores and total scores in the patients of OG as much lower as compared to the patients of CG and this difference was also much significant statistically (P<0.050, Table-2).

Table-II: PANSS Score Between the Two Groups Before and After Treatment (Mean ± SD)

Group		Observation group	Control group
Negative factor score	Before treatment	33.2±2.6	33.3±3.2
	After treatment	23.5±2.2*#	30.2±2.1*
Positive factor score	Before treatment	12.6±3.4	12.5±1.5
	After treatment	9.1±2.1*	9.1±2.2*
General psychopathological score	Before treatment	22.4±1.6	22.6±1.5
	After treatment	18.1±1.2*	19.3±1.2*
Total score	Before treatment	73.7±11.6	72.1±8.2
	After treatment	55.2±6.4*#	62.5±5.4*

Note: *meant that P<0.05 compared to before treatment; #meant that P<0.05 compared to the control group.

Prior treatment, we found no difference in the scores of HAMD between the patients of both groups (P>0.050), but after treatment, there was much difference in the HAMD scores of the patients of both groups. HAMD scores in the patients of OG were much lower as compared to the patients of CG after treatment (P<0.050, Table-3). There was no occurrence of the adverse reactions like insomnia, diarrhea, appetite loss, hypotension, occasional angioedema, and extra-pyramidal reactions in the patients of both groups. In the patients of CG, there were 3 patients of headache, 3 patients with vomiting and nausea and 3 patients present with fatigue and rate of prevalence of the adverse reaction was 24.18%. In the patients of OG, four patients were present with headache, 4 patients with vomiting and nausea and 4 patients were present with fatigue and rate of incidence of adverse reactions was 31.28%. We found no significant difference in the prevalence of adverse reactions between the patients of both groups (X2=0.3330, P>0.050).

Table-III: HAMD score between two groups before and after treatment.

Group	Observation group	Control group
Before treatment	23.34±1.62	23.64±1.43
After treatment	8.48±2.43*#	18.14±2.46*

DISCUSSION:

In modern era, there is increase in the occurrence of schizophrenia and there is trend of higher number of elderly patients. With the incidence of schizophrenia, the prevalence of depression is very common [13]. According to the present data, about 58% patients with schizophrenia will have the complication of depression [14]. There is high sensitivity in the elderly patients to acquire adverse reactions of anti-psychiatric drugs because of the reduction in function of metabolism [15]. Olanzapine can efficiently block the dopamine &serotonin receptors in brain of human beings. It is very typical medicine to treat the patients of schizophrenia [16]. There are much weak effects of olanzapine on the mental illness along with negative symptoms of the disease [17].

Guo stated that olanzapine in combination with escitalopram was much better as compared to the olanzapine alone for the treatment of schizophrenia

present along with depression [18]. Paroxetine in combination with olanzapinedo not have fully effect on schizophrenia present with negative symptoms [19]. Olgiati has stated that there is significant effect of paroxetine in the treatment course of geriatric depression. Olanzapine in combination with paroxetine could efficiently improve the therapeutic influence in schizophrenia's treatment and this finding is similar with the results of research works conducted by Reavley. Some current research works have stated that prevalence of schizophrenia is closely associated with the abnormal Hcy metabolism.

CONCLUSION:

There is synergistic effect of paroxetine in combination with olanzapine which can efficiently decrease the level of serum Hcy, improve mental symptoms of the patients and lessen the depressive symptoms. Paroxetine in combination with olanzapine is very efficient and useful to treat the schizophrenia. It has much worth in the clinical practices. However, because of small size of sample and short duration for the observation, there is no manifestation of some of the adverse reactions of drugs. So, there is need of further research works to consolidate the findings of this research work.

REFERENCES:

1. Catalan R, Penades R. Risperidone long-acting injection: Safety and efficacy in elderly patients with schizophrenia. J Cent Nerv Syst Dis. 2011;3(3):95-105. doi: 10.4137/JCNSD.S4125
2. Felmet K, Zisook S, Kasckow JW. Elderly patients with schizophrenia and depression: Diagnosis and treatment. Clin Schizophr Relat Psychoses. 2011;4(4):239-250. doi: 10.3371/ CSRP.4.4.4
3. Yang DL, Liu LF, Hao YX, Luan QM. Effect of paroxetine combined with low dose of olanzapine on sleep process and architecture of depression patients with insomnia. China Pharm. 2016;(6):743-745. doi: 10.6039/j.issn.1001-0408.2016.06.08
4. Wang D, Cui P. The observation of clinical efficacy of paroxetine in combination with olanzapine in the treatment of depression complicated with sleep disorders. E-J Translat Med. 2015;(6):79-80.
5. Rosenheck R, Perlick D, Bingham S, Liu-Mares W, Collins J, Warren S, et al. Effectiveness and cost of olanzapine and haloperidol in the treatment of schizophrenia: A randomized controlled trial. JAMA. 2003;290(20):2693-2702. doi: 10.1001/ jama.290.20.2693
6. Shah S, Joshi D. Tolerability and efficacy of paliperidone ER compared to olanzapine in the treatment of schizophrenia: A randomized, double-blind, multicentric trial. Ind Psychiatry J. 2012;20(1):25-31. doi: 10.4103/0972-6748.98411
7. Liu-Seifert H, Ascher-Svanum H, Osuntokun O, Jen KY, Gomez JC. Change in level of productivity in the treatment of schizophrenia with olanzapine or other antipsychotics. BMC Psychiatry. 2011;11(1):87. doi: 10.1186/1471-244X-11-87
8. Bhanji NH, Margolese HC. Extrapyramidal symptoms related to adjunctive nizatidine therapy in an adolescent receiving quetiapine and paroxetine. Pharmacoth. 2012;24(7):923-925. doi: 10.1592/phco.24.9.923.36096
9. Caldwell TM, Jorm AF. Mental health nurses' beliefs about interventions for schizophrenia and depression: A comparison with psychiatrists and the public. Aust N Z J Psychiatry. 2015;34(4):602-611. doi: 10.1080/j.1440-1614.2000. 00750.x
10. Jiang Y, Zhang H, Wang Z, Zhao L, Lv L. Effects of modified electroconvulsive therapy on the cognitive function and blood parameters in female patients with schizophrenia. Int J Clin Exp Med. 2015;8(1):1349-1355.
11. Levine SZ, Rabinowitz J, Rizopoulos D. Recommendations to improve the positive and negative syndrome scale (PANSS) based on item response theory. Psychiatry Res. 2011;188(3):446- 452. doi: 10.1016/j.psychres.2011.03.014
12. Sushko VV. Olanzapine in combination with aripiprazole for treatment of schizophrenia in breast cancer patients. Eur Psychiatry. 2008;23(Suppl 2):S169-S170.
13. Strauss GP, Sandt AR, Catalano LT, Allen DN. Negative symptoms and depression predict lower psychological wellbeing in individuals with schizophrenia. Compr Psychiatry. 2012;53(8):1137-1144. doi: 10.1016/j.comppsych.2012.05.009
14. Goh YL, Seng KH, Chuan AS, Chua HC. Reducing antipsychotic polypharmacy among psychogeriatric and adult patients with chronic schizophrenia. Perm J. 2011;15(2):52.
15. Kennedy JS, Jeste D, Kaiser CJ, Golshan S, Maguire GA, Tollefson G, et al. Olanzapine vs haloperidol in geriatric schizophrenia: analysis of data from a double-blind controlled trial. Int J Geriatr Psychiatry. 2010;18(11):1013-1020. doi: 10.1002/gps.1007
16. Vadlamani LN, Banwari G, Dinakaran D, Menon V, Andrade C. Olanzapine has poorer efficacy

than risperidone for the treatment of the negative symptoms of schizophrenia. Ind J Psychiat. 2017;59(2):248-249. doi: 10.4103/psychiatry. IndianJPsychiatry_95_17

17. Meyers KJ, Upadhyaya HP, Landry JL, Chhabra-Khanna R, Falk DM, Seetharama Rao B, et al. Postinjection delirium/sedation syndrome in patients with schizophrenia receiving olanzapine long-acting injection: results from a large observational study. B J Psych Open. 2017;3(4):186-192. doi: 10.1192/bjpo.bp.116.004382
18. Guo WY, Zhu JZ. Olanzapine combined with escitalopram in the treatment of postschizophrenic depression. Pract Clin J Integr Tradit Chin West Med. 2017;17(7):24-25. doi: 10.13638/j. issn.1671-4040.2017.07.013
19. Tomita T, Sato Y, Nakagami T, Tsuchimine S, Kaneda A, Kaneko S, et al. Items of the montgomery-asberg depression rating scale associated with response to paroxetine treatment in patients with major depressive disorder. Clin Neuropharmacol. 2016;39(3):135-139. doi: 10.1097/WNF.0000000000000146