

An observational study of the effect of escitalopram and etizolam in type 2 diabetes mellitus patients with depression

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ABSTRACT

Background: Past decades have witnessed a rapid rise in the prevalence of diabetes mellitus; estimated to affect 415 million adults worldwide and 69.1 million adults in India. There has been an increased prevalence of diabetes associated depression, which can aggravate the symptoms of depression and diabetes associated complications. Use of tricyclic antidepressants (TCA) can disturb the glycemic control. Escitalopram is a selective serotonin reuptake inhibitor (SSRI) and Etizolam is a new safe anti-anxiety agent. The objective of this study was to study the prevalence of depression and anxiety in type 2 diabetes mellitus patients and to assess the efficacy of escitalopram and etizolam in the treatment of depression and/or anxiety in type 2 diabetes mellitus patients.

Methods: Total 125 patients diagnosed with type 2 diabetes mellitus with fulfilling the inclusion and exclusion criteria were included in the study. Informed written consent was obtained from the patients willing to participate in the study. They were screened for the presence of depression with the help of PHQ-9. Their demographic features were recorded and initial laboratory investigations done. Haemogram, blood sugar level - fasting (BSL-F) and postprandial (PP), serum alanine transferase (ALT), serum creatinine and Urine routine analysis. Patients were started on Escitalopram (10 mg) + Etizolam (0.5 mg) daily for 30 days and others were not treated and acted as control; keeping the management of diabetes mellitus unchanged for all. Laboratory investigations were repeated after 30 days.

Results: The prevalence of depression with/without anxiety was 35.2%. 51 patients treated with Escitalopram + Etizolam improved clinically and biochemically. There was a significant ($P < 0.05$) improvement in BSL-F and PP and HbA1c in patients treated with Escitalopram + Etizolam.

Conclusions: Prevalence of depression among type 2 diabetes mellitus was found to be 35% in this study. Fifty one patients treated with escitalopram + etizolam improved clinically as well as biochemically. There was significant improvement in BSL-F, BSL-PP and HbA1c. Escitalopram may be considered as antidepressant of choice in such cases.

Keywords: Diabetes mellitus and Depression, Etizolam, Escitalopram

INTRODUCTION

Diabetes mellitus is the most common lifestyle disorder in the world. Its prevalence is 415 million and in developing countries like India it is 69.1 million.^{1,9} Type 2 diabetes mellitus is more common than type 1 diabetes mellitus and is usually associated with other comorbid conditions like hypertension, dyslipidemia, depression etc.

Depression with or without anxiety is three times more common in type 2 diabetes mellitus. Diabetes associated depression is a serious condition that can aggravate both the symptoms of depression as well as diabetes associated complications.² It is often overlooked and benefits of treatment are missed. The pharmacological management of depression in diabetic patients needs critical evaluation of the comorbid conditions, adverse drug reactions and drug interactions. Pharmacologic treatments should be individualized based on the extent of glycemic control and depression and patients with severe depression

should not be prescribed drugs that have a chance of further deteriorating the mental status due to the high propensity for suicidal behavior. Use of TCA can disturb the glycemic control. Escitalopram is a SSRI with better features and etizolam is a new safe antianxiety agent.³ Hence, this observational study was conducted to assess the efficacy of these two drugs in the treatment of depression and/or anxiety state in patients of the type 2 diabetes mellitus.

The objective of this study was to study the prevalence of depression and anxiety in type 2 diabetes mellitus patients and to assess the efficacy of escitalopram and etizolam in the treatment of depression and/or anxiety in type 2 diabetes mellitus patients.

METHODS

Patients of type 2 diabetes mellitus attending the outpatient department (OPD) of Dhanashree Hospital, New Sangvi, Pune; were included in the study. They were screened for the presence of depression with the help of PHQ-9. Informed written consent was obtained from those patients of depression, who were willing to participate in the study. Following Table shows the inclusion and exclusion criteria respectively.

Inclusion criteria

- Age: ≥ 18 years
- Sex: Male or Female
- Diagnosed as type 2 diabetes mellitus and taking treatment regularly for at least 3 months
- PHQ-9 score ≥ 10
- Uncontrolled blood sugar level: Fasting: ≥ 130 and/or Post prandial: >160 mg/dl.

Exclusion criteria

- Type 1 diabetes mellitus patients
- Past history of psychiatric illness
- Past history of treatment with antipsychotic/antidepressant/antianxiety drugs

Their demographic features were recorded and initial laboratory investigations included haemogram, blood sugar level - fasting and post prandial, serum alanine transaminase, serum creatinine and urine routine analysis. They were treated with escitalopram 10 mg + etizolam 0.5 mg daily for 30 days. Others were not treated for depression and acted as control. Laboratory investigations were repeated after 30 days. Results obtained were analysed with the help of SPSS software. $P < 0.05$ was considered as significant.

RESULTS

Total 125 patients of type 2 diabetes mellitus were screened. 43 were diagnosed as having depression and/or

anxiety. Their demographic features are depicted in Table 1.

Table 1: Demographic features

Parameter	EE (n = 22)	C = (21)
Age (years)	51.2 \pm 17.5	53.8 \pm 18.7
Sex:M/F	9/13	7/14
Education:UG-/G+	8/14	9/12
Occupation:Un/Emp	10/12	10/11
Marital Status: (single/married-widowed)	7/15	8/13
Annual Income Rs.: <5 Lakh / >5 Lakh	14/8	14/7
BSL-F (mg/dl)	152.35 \pm 21.4	148.75 \pm 22.3
BSL-PP (mg/dl)	251.4 3 \pm 35.5	238.65 \pm 34.2
PHQ-9 score	15.53 \pm 2.30	14.36 \pm 2.15

EE-Etizolam+escitalopram; No significant difference

Out of these, 23 patients had both depression and anxiety, while 20 patients were suffering from only depression. 22 patients agreed to take the drug treatment. There was significant improvement in the clinical features of depression in 17 patients as seen in Table 2.

Table 2: Effect on PHQ-9 Score and BSL (mg/dl).

	E E Before	E E After	Control Before	Control After
BSL-F	152.35 \pm 21.4	135.24 \pm 18.5*	148.75 \pm 22.3	142.5 \pm 17.8
BSL -PP	251.4 3 \pm 35.5	195.53 \pm 22.4*	238.65 \pm 34.2	223.52 \pm 3 2.5
PHQ-9 score	15.53 \pm 2.30	8.60 \pm 1.40*	14.36 \pm 2.15	11.50 \pm 2.05

* $P < 0.05$, comparison with baseline value.

In addition, patients treated with etizolam and escitalopram had significant ($P < 0.05$) improvement in both fasting and postprandial blood sugar levels (Table 2).

DISCUSSION

Forty three patients had depression and/or anxiety among 125 patients of type 2 diabetes mellitus. The prevalence of depression among type 2 diabetes mellitus patients in this study was 35.2%. Diabetes doubles the odds of depression as compared to normal population.⁴ Among diabetics, the prevalence of depression is reported to be 35 to 40%.^{5,11} Our observations are compatible with this. Depression can interfere with self-care in diabetics.⁶ Antidepressants stimulate appetite, may worsen orthostatic hypotension, hyperglycaemia on long-term use.⁷ SSRI like fluoxetine, sertraline etc. improve both dietary compliance and HbA1c levels in addition to clinical relief from depression. We have also observed significant improvement in glycemia along with relief from depression in these patients. Escitalopram is a new SSRI with benign side effect profile, tolerated better by elderly and rapid onset of action within 1-2 weeks. Etizolam, benzodiazepine, is a new antianxiety drug, with less

dependence potential. Depression and anxiety often coexist in type 2 diabetes mellitus patients.⁸ Hence, use of this combination is justified. Besides this, it needs to be given only once daily. Its availability in a fixed drug combination is unlikely to increase the pill burden and may improve the compliance to drug treatment.¹⁰

CONCLUSION

Prevalence of depression among type 2 diabetes mellitus was found to be 35% in this study. Fifty one patients treated with escitalopram + etizolam improved clinically as well as biochemically. There was significant improvement in BSL-F, BSL-PP and HbA1c. Escitalopram may be considered as antidepressant of choice in such cases.

However, this is a single centre study with small number of patients. There is a need for further studies.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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