Comparing escitalopram with sertraline for obsessive and compulsive symptoms in patients with obsessive compulsive disorder: A comparative double blind clinical trial

Arash Mowla⁎, Farzaneh Modarresi, Seyed Ali Dastgheib
Substance Abuse Research Center, Department of Psychiatry, Shiraz University of Medical Sciences, Shiraz, Iran

ARTICLE INFO
Keywords:
Escitalopram
Sertraline
Obsessive compulsive disorder

ABSTRACT
Background: Escitalopram has some unique features among selective serotonin reuptake inhibitors. The aim of this survey is to compare the efficacy of escitalopram with sertraline on obsessive and compulsive symptoms in patients with Obsessive Compulsive Disorder (OCD).

Methods: In this 12-week double blind controlled randomized clinical trial, 57 patients with OCD were randomly allocated to receive escitalopram or sertraline. Yale Brown obsessive compulsive behavior scale (YBOCS) was used to assess the outcomes. Adverse effects were also recorded.

Results: 41 patients (20 in the escitalopram group and 21 in the sertraline group) completed the trial. In the escitalopram group 15 (70%) patients and in the sertraline group 16 (76.19%) patients showed more than 34% decrease in mean YBOCS score at the end of the trial (P = 0.531). The two groups revealed significant decrease in YBOCS scores without significant difference (P = 0.861) at week 12. No serious adverse effects were reported.

Conclusions: Our results demonstrated that escitalopram is as effective as sertraline in treatment of obsessions and compulsions in patients with OCD. However, it needs to be noted that our study is preliminary and larger double blind controlled studies are needed to confirm the results.

1. Introduction

Obsessive compulsive disorder (OCD) involves obsessions, compulsions, or both, that are not caused by medications or by a medical disorder, and which cause significant distress or social dysfunction. (American Psychiatric Association, 1994). Selective serotonin reuptake inhibitors (SSRIs) are considered as the first line treatment for OCD in current literature (Eddy et al., 2004). However, more than half of the OCD patients treated with SSRIs failed to respond in clinical trials (Pittenger and Bloch, 2014). Choosing the most effective SSRI for treating obsessive and compulsive symptoms in a patient with OCD is a challenge.

Several studies have confirmed the efficacy of sertraline in treatment of OCD (Koran et al., 2002; Kronig et al., 1999). Furthermore; US Food and Drug Administration (FDA) also has approved sertraline in management of OCD (Walsh and Mc Dougile, 2011).

Escitalopram has not yet been approved by FDA for treatment of OCD. Escitalopram has some unique features among SSRIs: first, it only contains the active compound (S-(+)-enantiomer) of the medication citalopram (Sanchez et al., 2004). The R-(−)-enantiomer of the citalopram has found even to interfere with the active compound (S-(+)-enantiomer). Some studies have shown that escitalopram (the s-citalopram) binds more than 30 times more potently to the serotonin transporter receptor than does R-citalopram (Dhillon et al., 2006; Burke, 2002). Second, escitalopram is the most selective serotonin reuptake inhibitor among the SSRIs (Sanchez et al., 2003) and third, escitalopram binds to both the primary, high-affinity site on the serotonin transporter protein, which inhibits serotonin reuptake, and to a low-affinity site that alters binding at the primary site (Burke and Kratochvil, 2002).

In animal studies, the behavioral effect of escitalopram in the fear conditioned stress animal model of anxiety was greater than the behavioral effect of the dose equivalent racemic preparation of citalopram (Burke and Kratochvil, 2002; Baldwin and Natr, 2005).

Based on the above mentioned unique characteristics of escitalopram, some authors claim that escitalopram may be superior to citalopram or other SSRIs in treatment of major depressive disorder (Sanchez et al., 2004; Rao, 2007). However, this claim was not supported by later trials (Trkulja, 2010).

Now the question is that: does escitalopram with its unique characteristics have superior clinical effects over other SSRIs in treatment of OCD? In this study, we will compare escitalopram, with sertraline for treatment of obsessions and compulsions in OCD.
2. Method

2.1. Patients

The patients were recruited from Hafez Psychiatric Clinic affiliated to Shiraz University of Medical Sciences from April 2016 to March 2017. Patients were diagnosed according to DSM-V-TR criteria for OCD by a board certified psychiatrist through Structured Clinical Interview for DSM-V, Clinical Version (SCID-I). Exclusion criteria were any other axis I and II diagnosis, major medical problems (cardiovascular, pulmonary, renal or gastrointestinal diseases), pregnancy and substance or alcohol abuse.

All the patients provided written informed consent to participate in the study. The study was approved by the ethics committee of Shiraz University of Medical Sciences that adheres to the Declaration of Helsinki Ethical Principles for Medical Research. The study also was registered in the Iranian registry of clinical trials with Irct registration number: IRCT2016020421745N4.

2.2. Procedure

The trial was designed as a randomized, controlled, double-blind study. Sixty nine patients were eligible to enter the study. They were randomly assigned to receive either escitalopram or sertraline. We used a standard randomization procedure generated by a computer to obtain random sample sets. The escitalopram and sertraline tablets had the same shape and color. The medication tablets were prepared by Shiraz University Pharmacology Unit. The patients and the examiner were both blind about the consuming medication since the same number of similar pills were provided.

The primary efficacy measure was Y-BOCS (Goodman et al., 1989a,b). The Y-BOCS were administered before starting the treatment and at the end of week 12. The efficacy index of Clinical Global Improvement (CGI-2) was employed at the end of the study.

Escitalopram and sertraline were begun at low doses and the dosages were titrated up according to patients’ clinical response or intolerance due to adverse effects. Escitalopram was started at 5 mg/day initially and increased in 5-mg increments weekly to a target dose of 30 mg/day. No dose escalation was administered in the case of patient’s intolerance or clinical response. The mean dosage of escitalopram was 22.3 mg/day (range 10–30 mg/day). Sertraline was started initially at 50 mg/day, increased in 50 mg increments weekly to a target dose of 300 mg/day. No dose escalation was administered in the case of patient’s intolerance or clinical response. The mean dosage of sertraline was 168.9 mg/day (range 50–300 mg/day).

The duration of treatment was 12 weeks. Subjects were interviewed at baseline, and at the end of weeks 2, 4, 8 and 12. Safety and tolerability were assessed using spontaneously reported adverse event data and rates of premature termination for side effects. During the study psychological interventions were not allowed. Before the study, all patients completed a general medical examination and blood chemistry tests including, thyroid function test, liver function test, renal function test and complete blood count.

2.3. Statistical analysis

There is no standard cut-off point for Y-BOCS. In a previous study decline above 34% in YBOCS was considered as response rate (Sahraian et al., 2017). Another trial conducted on resistant OCD patients, more than 25% decrease in Y-BOCS was the cutoff point (Mowla et al., 2010). In this current trial a decline over 34% in total Y-BOCS score was considered as respondent.

We compared both demographic and clinical characteristics of the groups at baseline using Chi Squired and Mann–Whitney U tests. Mann–Whitney U test was used to compare the 2 groups for significant difference of effects, and the Wilcoxon signed ranks test computed the differences within groups. Response rates were compared between the groups at the endpoint. The analysis was performed only on completers. All p values were two-tailed, and statistical significance was set at the 5% level. Statistical assessments were performed by SPSS (IBM SPSS Statistics) for Windows version 19.0.

3. Results

Among 69 patients, 57 meet the inclusion criteria to be included in this clinical trial and finally 41 subjects completed the trial. There were 20 patients in the escitalopram group and 21 in the sertraline group. The baseline demographic and clinical data are depicted in Table 1.

At first, 12 patients were excluded from the study because they did not meet inclusion criteria. Then at week 4, six patients were excluded from escitalopram group because of withdrew consent (n = 4), headache (n = 1) and nausea (n = 1). In sertraline group also 7 subjects were excluded due to withdrawn consent (n = 4), insomnia (n = 1) and dyspepsia (n = 2). At week 8, in escitalopram group, two patients dropped out because of sexual problems (n = 1) and nausea (n = 1). In sertraline group, one patient dropped out because of nausea (n = 1) [Fig. 1].

The findings of this study indicated no significant difference between the two groups regarding the number of patients with a decline of over 34% in total YBOCS score. Overall, in the escitalopram group 15 (70%) patients and in the sertraline group 16 (76.19%) patients showed more than 34% decrease in mean YBOCS score at the end of the trial. This ratio of improvement was not statistically different between the two groups (P = 0.531).

The two study groups revealed significant decrease in YBOCS scores at the week 12. No significant difference was detected between the escitalopram and sertraline groups (P = 0.861). The Obsession, compulsion and YBOC total scores of the patients of the groups are depicted in Table 2.

Both groups also showed significant improvement in the efficacy index of Clinical Global Improvement (CGI-2) without significant difference (P = 0.347). This reveals that patients in both groups after completing the trial were satisfied with the treatments.

4. Discussion

This is the first randomized trial comparing escitalopram and sertraline in patients with OCD. We found no significant difference in the efficacy and safety outcomes between the treatment groups in our study.

Escitalopram in some previous studies had shown beneficial effects in treatment of anxiety disorders (Kasper et al., 2005; Lader et al., 2004). In review of literature, we also find some case reports and open studies showing escitalopram to be effective in treatment of OCD (Kirkcaldy et al., 2004; Hollander et al., 2005; Praharaj, 2004; Grant and Potenza, 2006). Stein et al., conducted the only reported randomized, double-blind, placebo-controlled trial of escitalopram in OCD, a study that included the active comparison drug paroxetine (Stein et al., 2007). Their study showed that escitalopram in doses of 20 mg/day has efficacy in treatment of OCD. In a large multicenter study, comparing
relapse rates, escitalopram was superior to placebo in preventing relapse in OCD patients (Fineberg et al., 2007). Based on studies conducted on the role of escitalopram in treatment of OCD, Fineburg concluded escitalopram deserved to be considered as first line treatment in patients suffering from OCD (Fineberg, 2007). In line with these studies, our study showed that escitalopram is effective in management of patients with obsessive compulsive disorder.

Escitalopram has some unique features among SSRIs (Sanchez et al., 2004, 2003; Dhillon et al., 2006; Burke, 2002; Burke and Kratochvil, 2002). It is the most selective serotonin reuptake inhibitor. Furthermore, it is the only SSRI medication that contains only the active S-isomer. In addition, escitalopram binds to both the primary, high-affinity site on the serotonin transporter protein, and to low-affinity site that alters binding at the primary site. Based on these pharmacological effects, at first it was hypothesized that escitalopram is more effective than other SSRIs in treatment of major depressive disorder (MDD) (Sanchez et al., 2004; Rao, 2007), but later clinical trials ruled out the superiority of escitalopram over other SSRIs in management of MDD (Trkulja, 2010). The results of our study also showed a comparable efficacy of escitalopram and sertraline in treatment of patients with OCD. Therefore, superiority of escitalopram in management of OCD over other SSRIs was ruled out.

This survey has some limitations. Small number of the patients and short duration of the trial are the limitations of our study. Conducting the study only in one place is the other shortage of the trial. Another pitfall of our study was lack of placebo group. If escitalopram was compared to placebo, better conclusion regarding its effects on OCD could be inferred. Larger double blind placebo controlled clinical trials with longer duration are needed to confirm our results.

---

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Escitalopram group</th>
<th>Sertraline group</th>
<th>Between Group Comparison P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline 12 weeks</td>
<td>Baseline 12 weeks</td>
<td></td>
</tr>
<tr>
<td>Y-BOCS</td>
<td>28.26 ± 5.91</td>
<td>27.89 ± 5.70</td>
<td>0.861</td>
</tr>
<tr>
<td>Obsession Score</td>
<td>15.16 ± 3.43</td>
<td>14.39 ± 3.11</td>
<td>0.645</td>
</tr>
<tr>
<td>Compulsion Score</td>
<td>13.10 ± 3.41</td>
<td>13.50 ± 2.97</td>
<td>0.794</td>
</tr>
<tr>
<td>CGI-2</td>
<td>1.65</td>
<td>1.42</td>
<td>0.347</td>
</tr>
</tbody>
</table>

Y-BOCS: Yale-Brown Obsessive Compulsive Scale.
5. Conclusion

Our double blind, controlled study demonstrated that escitalopram has comparable efficacy with sertraline in treatment of patients with obsessive compulsive disorder. However, it needs to be noted that our study is preliminary and larger double blind studies are needed to confirm the results.

Acknowledgment

This study was Dr. Farzaneh Modaresi postgraduate thesis for graduation from Shiraz University of Medical Sciences and was financially supported by Shiraz University of Medical Sciences with grant number: 94-01-01-10308. All the authors have no conflicts of interest.

References