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Review Article

The comparison of quetiapine and sodium valproate in treatment of acute mania: A review article

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Abstract

Introduction: The acute mania is a dangerous part of bipolar disorder so it needs to an appropriate psycho-social and medical treatment that prevents of serious dangers for patients. The mood stabilizers such as sodium valproate and atypic antipsychotics such as quetiapine are used in combination or lonely for treatment of acute mania related to bipolar disorder. The treatment effects of quetiapine in combination with sodium valproate indicated in different researches but according to adverse interactions in taking of this combination, it is necessary that researchers compare the effects of quetiapine and valproate. This review aimed to compare the effects of quetiapine versus valproate in acute mania.

Review: Through search in scientific indexes (until February 2015) 4 studies found. The results of them indicated that there is no significant difference between two medicals and both of them are effective in treatment although some studies indicated that the treatment effects of quetiapine appear more rapidly than sodium valproate.

Conclusion: It seems that quetiapine has equal effects to valproate in treatment of acute mania although some studies indicated that its treatment effects appear more rapidly than sodium valproate.

Keywords: Acute mania, Bipolar disorder, Quetiapine, Sodium valproate

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Introduction

Bipolar disorder is a severe, episodic and lifelong disorder that indicates with mania, hypomania or depression episodes that occur periodically (1-5).

It is noticeable that mania, depression or mixed episodes occur in vary wide range of severity and manifestation of symptoms (1-6).

The overall prevalence of bipolar disorder I and II among the world population estimate 1.2% that it differs from 0.1% in Nigeria to 3.3% in America (7-9).

The acute mania is a dangerous part of bipolar disorder so it needs to an appropriate psycho-social and medical treatment that prevents of serious dangers for patients. The mania episode may occur classically or mixed but this situation defines with increase in energy, rapid, tangential or maybe disorganized thoughts. The need to sleep is decreased but patient does not feel fatigue. The illusions or delusions may occur.

The mood is euphoric in the beginning of classic mania and the delusions have grandiosity content. The high risk behaviors related to these delusions such as spending a lot of money, unsafe driving or sexual activities are prevalent. The mood in classic mania usually progress and change to euphoric or irritable mood. In overall, any type of acute mania is a psychiatric urgency that needs to hospitalization and medical treatment (10). In according to the prevalence and effects of this disorder in patients' lives (11), decrease in quality of life in mania, depression or even euthymic phases (12), the appropriate in different phases is important.

For treatment of bipolar disorder different medical therapies, adjunctive treatments such as adjuvant agents for example folic acid (13) and psychological treatments such as group cognitive behavioral therapy (14) are used. The medical therapy of acute episodes of bipolar disorder is based on mood stabilizers medications (15).

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The mood stabilizers are different in act mechanism and effects that they include valproate, lithium, lamotrigine and carbamazepine. Although some of antipsychotics are used in longtime treatment of bipolar disorder (16).

The most of medications that used for treatment of bipolar disorder are indicate as mood stabilizers in specific phases. Based on the evidences, it seems that lithium or maybe sodium valproate are only medications in both acute treatment and prevention of future episodes. Quetiapine also has real effects in mood stabilization. The other anticonvulsants or antipsychotics have mood stabilization effects in specific situations and they are used in acute phases of bipolar disorder but there are less about them evidences for prevention of relapse and maintenance of mood (17).

The guidelines of bipolar disorder treatment recommend the use of lithium, divalproex or one atypic antipsychotic in acute mania that it begins as monotherapy and other medications are added to primary medication in absence of appropriate respond (18-22).

Valproate (2-propyl pentanoate) is available as valproic acid, sodium valproate and semi-sodium valproate. This medication acts through effect on dopamine, GABA and glutamate. The major psychiatric usage of this medication is in bipolar disorder also it uses in other psychiatric disorders such as schizophrenia and border line personality disorder although there are no sufficient evidences for commendation.

In acute mania, the monotherapy with sodium valproate has the same effect in comparison with antipsychotics and lithium so the combination therapy of valproate with an antipsychotic has more effect than monotherapy. The maintenance treatment with valproate and quetiapine or olanzapine has more effective than valproate monotherapy especially when this combination is effective in treatment of acute phase. The usual side effects of valproate include weight gain, gastroabdominal symptoms, tremor and mild elevation of liver enzymes. Most of these effects are dose dependent and they relief through decrease of dose (23).

The routine dose of valproic acid is 750-2500 mg/day that it causes the blood level between 50-120 microgram/ml (24).

Quetiapine is known as the second generation of dibezotiazepine antipsychotic that it approved for treatment of schizophrenia, major depression, depression and mania phases of bipolar disorder (25,26).

This current and atypic antipsychotic is used for bipolar mania as monotherapy. Based on the prior studies about quetiapine in bipolar disorder, it begins 100 mg/day and it increased to 600-800 mg/day in 5^{th} or 6^{th} days. The mean dose that leads to response is 600 mg/day (27).

Quetiapine is known as blocker of dopamine, serotonine (5-HT) and norepinephrine receptors also it has anti-histaminergic effects. The different doses of quetiapine have different effects on mentioned receptors and high dose (600-800 mg/day) of it is recommended for acute mania or psychosis. FDA approved quetiapine for treatment of acute schizophrenia or mania (28).

Based on the conducted studies, quetipine as monotherapy or in combination with lithium or divalproex is used for acute phases of mania and depression related to bipolar disorder and patients tolerate it well (29).

The different studies conducted to assess the effects of valproic acid and its related medications and quetiapine in treatment of acute mania and bipolar disorder. Sachs et al. assessed 91 acute bipolar mania patients under treatment with divalproex/lithium+quetiapine and 100 acute bipolar mania patients under treatment with divalproex/lithium+placebo. The results based on the Young Mania Scale showed that first group who received quetiapine has significant improvement compared to second group (placebo). The same results indicated in Sussman et al. study that combination of quetiapine+divalproex/lithium has more effective in maintenance and prevention compared to monotherapy with divalproex/lithium (30,31).

Also the results of Mclntyre et al. study indicated that combination of quetiapine+divalproex/lithium has significant effectiveness in comparison with monotherapy of divalproex/lithium±placebo (32).

Although valproic acid and its related medications in combination with quetiapine are used for bipolar disorder and acute mania but reported interactions leads to more assessment about this combination (33). Wei and Huang reported that two acute mania patients under treatment with quetiapine+sodium valproate experienced delirium that these adverse effect relief after quetiapine discontinuation, so unexpected interactions are probable in combination therapy (34).

Also Halaby et al. reported that two bipolar patients with acute mania experienced hyperamonemia during treatment with valproic acid+quetiapine. According that valproic acid may not lead to this effect even after longtime consumption, this complication may be the consequence of this combination therapy (35).

Baesd on the Brahm et al. findings about quetiapine in treatment of acute mania indicated that adverse effects induced by quetiapine such as somnolence (34% in monotherapy and 66% in combination therapy) and mouth dryness (33% in monotherapy and 38% in combination therapy) are observed in combination therapy with other medications (36).

According to mentioned studies, this review aimed to assess the effects of quetiapine versus sodium valproate in treatment of acute bipolar mania.

Materials and Methods

Through research among Persian and English articles indexed in different databases such as SID, Scopus, PubMed, GoogleScholar, OVID and etc. until February 2015, indicated that there are little evidences that they assess the mentioned comparison directly. The results of them are below:

Haddad et al. study aimed to compare the effects of quetiapine and known and classic mood stabilizers as montherapy or combination in longtime treatment of bipolar disorder. In this research 232 bipolar patients diagnosed based on DSM-IV (91 bipolar I patients and 141 bipolar II patients) treated and evaluated during 4 years follow-up. The mood stabilizers selected according to patients' clinical situation and physicians' diagnosis.

So, the participants divided into 6 groups: quetiapine (n=41), lithium (n=39), sodium valproate (n=73), lamotrigine (n=31), quetiapine+lithium (n=25) and quetiapine+sodium valproate (n=23). All patients evaluated every month. The assessment in 4 years follow-up conducted based on YMRS, HAMD-21 or the prevalence of relapse according to primary questionnaire and euthymic duration.

According the results, the combination therapies (lithium/sodium valproate+ quetiapine) are more effective than monotherapies (quetiapine: 29.3%, lithium: 46.2%, sodium valproate: 32.9%, lamotrigine: 41.9%, lithium+quetiapine: 80% and sodium valproate+quetiapine: 78.3%). In addition the quetiapine monotherapy has the same effect in comparison of combination therapies in prevention of depressive episodes. This research emphasizes on the effects of quetiapine in longtime treatment of bipolar disorder (24).

The randomized double blind study conducted by DelBello et al. on manic adolescents (July 2002 to January 2004) to compare the treatment effects of quetiapine and slow release divalproex. In this study, 50 adolescents (12-18 years) with bipolar I disorder, manic or mixed episode divided randomly to quetiapine group (400-600mg/day) or divalproex group (serum level 80-120 microgram/day) for 28 days. The primary treatment changes evaluated based on Young Mania Scale (YMRS).

The repeated variance based on the last observations indicated that there was no significant difference in YMRS scores during 28 days (P=0.3) but mixed regression analysis showed that improvement in YMRS scores among quetiapine group occurred more rapidly than divalproex group (P=0.01). Based on the observation this P value was 0.03.

The response and relapse rates were significantly higher in quetiapine group (P<0.03). There was no significant difference in adverse effects between two groups.

According to the results of this study, quetiapine has equal effectiveness compared to divalproex in treatment of acute mania among bipolar adolescents although the manic symptoms relief more rapidly by quetiapine taking. Quetiapine monotherapy is effective in treatment of mania or mixed episodes of bipolar disorder among adolescents (37).

In Feifel et al. study 30 patients with acute mania related to bipolar disorder (> 17 scores in YMRS) randomly treated by slow release divalproex (30 mg/kg) or quetiapine (200 mg in first day and increased dose to 800 mg according to the patient's tolerance). The evaluations conducted in 1st (baseline), 3rd, 7th, 14th and 21th days through YMRS, CGI (severity and improvement) and Montgomery-Asberg Depression Index. The treatment effects appeared in 3rd day in two groups and overall assessment showed that there were no significant differences between two groups in efficacy and adverse effects. Based on the results of this small study, both of these medications can be used and tolerated in acute mania related to bipolar disorder (38). The Langosch et al. study aimed to assessment of efficacy and safety of monotherapy with quetiapine and sodium valproate in treatment of rapid-cycling bipolar disorder.

In this randomized study, 38 patients with relapsing or partial relapsing bipolar disorder or rapid-cycling bipolar disorder in 3 centers in Germany treated randomly by quetiapine (n=22), sodium valproate (n=16) in flexible treatment doses for 12 months. Based on the results, 51% patients in quetiapine group and 50% patients in sodium valproate continued this treatment process. The patients treated by quetiapine experienced less days of moderate to severe symptoms of depression in comparison with sodium valproate group (P=0.04)

On the other hand there were no differences between two groups in manic or hypomanic days. In addition, based on clinical symptoms scale (version of bipolar disorder) the response rate was higher in

quetiapine group. There were no significant differences in treatment results according to Hamilton Depression Inventory, Montgomery-Asberg Depression Inventory and Young Mania Scale. Although the prevalence rate of adverse effects especially orthostatic regulation dysfunction, somnolence and weigh gain were significantly higher in quetiapine group. Baesd on these results, quetaipne is more effective in depression related to bipolar disorder than sodium valproate and it acts same to sodium valproate in treatment of mania although its adverse effects are more than sodium valproate (39).

Conclusion

It seems that quetiapine has equal effects to valproate in treatment of acute mania although some studies indicated that its treatment effects appear more rapidly than sodium valproate.

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