

Efferent Combination Treatment Results Therapy for Patients with Depression

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Abstract

Introduction: Efferent-combination therapy (ECT), which we used as a therapeutic method for depression, contains disintegration, immunostimulating and psychocorrection components. This method is qualitatively different from traditional therapy with antidepressants and can potentially serve as a reliable alternative to a specialist.

Aim: Perform a methodical critical analysis of evidence of the effectiveness of ECT in the treatment of depression of moderate and severe severity.

Method: Examined patients were allocated to all outpatients with a basic diagnosis of ICD-10 of moderate and severe depressive episodes. The study included patients undergoing treatment from 2002 to 2016.

Results: A depressive episode was diagnosed to 450 patients. The prevalence of severe depressive episodes was 316 (70.22%) people; the prevalence of moderate severity of episodes was 134 (29.78%) people. All observations are independent of gender and age.

Conclusion: There is indisputable evidence confirming the effectiveness of ECT in the treatment of depression: high-quality remission 84.05% (378 people), poor-quality remission 14.05% (63 people), unnoticed positive results in 1.90% (9 people). Expanding research is needed to determine the role of ECT as one of the therapies in people with depression.

Keywords: *Efferent-Combination Therapy; Therapeutic Efficacy; Treatment of Depression*

Introduction

Treatment of depression of various origins and clinical course is currently one of the problematic issues of modern psychiatry. Today, drug therapy remains the main method of treatment, but not always sufficiently effective and cost-effective for a large number of patients [8-11]. This is a significant argument in support of the use of another more effective method, in particular, detoxification and immunostimulating [3,4,6].

As you know, in antidepressant therapy and the so-called detoxification-immunobiological therapy, there are significant problems, including an insufficient number of specialists. Over the past 15 years, we have developed and introduced into practice the method of efferent-combined therapy (ECT). Our results of uncontrolled studies of the treatment of depressive disorders were published earlier

[2,4,6]. This publication summarizes all the changes and, most importantly, the therapeutic results of the examined patients (n = 450) suffering from depression of moderate and severe severity.

Aim of the Study

The aim of our study was to evaluate the effectiveness of ECT in comparison with conventional therapy with antidepressant drugs.

Method

We investigated the extent to which depressive disorders are associated with intoxication (autointoxication) of the body. After all, the indicators indicating the presence of an intoxicating component are obvious. This is the accelerated work of the cardiovascular system. Very often (in 90% of cases) the pulse of the study participants reached 110 - 125 beats/min. In addition, the presence of intoxication was manifested in the general status of patients - the absence of pupillary, reflex, nausea and other disorders, gastrointestinal tract problems, loss of appetite, sleep disorders, etc. Thus, any significant relationship between the presence of intoxication and changes in the immune status of patients with depression inclines us towards the presence of these disorders, which may be directly associated with a disorder of the immunobiological status of the body.

The inclusion and exclusion criteria and methods for this study have been described previously [4-6]. Were selected patients suffering from depression of moderate and severe severity, according to the criteria determined by the International Classification of Diseases, 10th revision (Table 1).

Diagnosis	Number, n	Floor		Age, years
		Male	Female	
F31.3 Bipolar disorder, current episode of moderate (moderate) depression	60	25	35	
• No somatic symptoms	40	20	20	15 - 55
• With somatic symptoms	25	10	15	
F31.4 Bipolar disorder, current episode of severe depression without psychotic symptoms	45	20	25	22 - 65
F31.5 Bipolar disorder, current episode of severe depression with psychotic symptoms	92	40	52	15 - 58
F32,1 Moderate depressive episode	74	18	22	16 - 60
• No somatic symptoms	40	14	20	
• With somatic symptoms	34			
F32.2 Severe depressive episode without psychotic symptoms	64	30	34	40 - 67
F 32.3 Severe depressive episode with psychotic symptoms	115	56	59	42-56
Total	450	203	247	15-67

Table 1: Number and age of examined patients (n = 450).

Patients were excluded from the study if the depressive disorder resulted from significant therapeutic, surgical or other diseases.

Included in the study were patients over 15 years of age with moderate and severe depressions with manifestations of anxiety.

ECT was performed as the main therapeutic activity. In another group of patients, which consisted of 130 people, conventional antidepressant therapy was carried out. Results included improvement in psychotic symptoms, interpersonal and social adaptation, quality of life, and participants' satisfaction with both treatment and the way they received specialized care. The quality assessment of each study was based on study design, population, comparison group, and results for generalization. Due to the heterogeneity of these components, we could not use standard statistical synthesis, therefore the results presented in table 1 are portable synthesis.

ECT (1st group, n = 320). This method is based on membrane plasmapheresis described in the literature [1,3].

Blood purification - detoxification therapy was carried out, as a rule, in 3 sessions (occasionally in 4 sessions) with an interval of 1 - 4 days with the use of ultraviolet blood irradiation in each session [1,3,5,7].

For membrane plasmapheresis, a PFM-800 plasma filter (Moscow, Russia) was used, for blood pumping, a blood monitor of the dialysis apparatus Gambro AK-10-90 (Sweden) was used. For ultraviolet blood irradiation - Mustang apparatus (Moscow, Russia), as well as intravascular disposable fiber optic guides (Moscow, Russia).

The day before treatment in groups 1 and 2, all patients underwent studies: electrocardiography, electroencephalography, ultrasound examination of the thyroid gland, clinical blood test and analysis for thyroid hormones (TZ, T4, T5H), investigated by The amount of lithium in the blood. Also in all patients in both groups, blood saturation was determined, i.e. the partial pressure of oxygen in the blood was measured using a finger sensor. In all patients, the change in subjective data concerning changes in mood, the degree of communication with others, the adoption of more independent decisions in elementary everyday matters, a noticeable decrease in egoistic behavior; a dramatic decrease in the degree of stubbornness, the degree of reduction of anxiety, withdrawal, reduction of suffering were assessed from loneliness. In the main group, immediately before the sessions of plasmapheresis, all patients underwent repeated ECG studies; for the purpose of demodulation, 1200 ml of liquid was injected intravenously: 0.9% sodium chloride solution (400 ml) + Ringer's solution (400 ml) + 5% glucose solution (400 ml). Systemic heparinization was also done (150 - 250 U/kg body weight). In each session, 30% of the circulating plasma volume was removed. By the end of the session, the residual effect of anticoagulant sodium citrate, the use of which is included in the method, was removed from all patients. In order to restore the volume of circulating plasma, all patients were re-injected with 1200 ml of liquid intravenously: 0.9% sodium chloride solution (400 ml) + 10% calcium gluconate solution (10 ml) + Ringer's solution 400 ml + 5% glucose solution (400 ml) + Panangin (10 ml) + 10% Riboxin solution (10 ml) + Demoton-B vitamin complex (2 ml). Also, all patients were injected with cell protectors: Cartan (5 ml), Essentiale (5 ml), Actovegin (2 ml).

After this therapy, from the next day, autohemotherapy injections began with the addition of 100 mg of a solution (ampoule) of Eglonil to the blood, 10 sessions in total. At the same time 3 patients received Anafranil (25 mg) as an intramuscular injection 2 times a day for 10 - 15 days. Then Anafranil was prescribed in the form of tablets of 25 - 50 mg 2 - 3 times a day. This therapy lasted for at least 3 - 6 months. To normalize night sleep in the evenings, patients took Amitriptyline (12.5 - 25.0 mg), Phenazepam (1 - 3 mg) and Corvalol (20 - 30 drops each), all 3 drugs at the same time. In our practice, this combination normalized sleep for 7 - 9 hours. If necessary, psychotropic drugs were prescribed (Risipolept, Roxizapine, etc).

All patients, as a rule, received psycho-corrective drugs (Cyclodol, Akineton). The duration of treatment was carried out for at least 3 months, and sometimes - 6 months.

The therapy, which we called "efferent-combined", was supplemented with vitamin therapy (groups B, C, E).

Antidepressant treatment (group 2, n = 130)

This group included patients, clinically and pathogenetically similar to the patients included in the 1st group. Several therapy options were allowed. This variability was possible, since the main goal of the study was to determine whether any active antidepressant treatment improves the prognosis of the disease in comparison with the 1st group. Nevertheless, the distribution for different treatment options was strictly stipulated in the protocol (“Clinical protocol for the diagnosis and treatment of bipolar affective disorders” Baku, 2009).

The therapy was carried out with a selective norepinephrine reuptake inhibitor – mirtazapine non-tricyclic α 2-antagonist, which enhances both noradrenergic and serotonergic transmission. In case of refusal of this treatment or its ineffectiveness after 1 month of use, another therapy was proposed with a selective reverse inhibitor capture of serotonin (SSRI) - citalopram. A satisfactory response to treatment was judged to be at least 50% lower than baseline on the Hamilton Depression Rating Scale (NDRS: Hamilton, 1960). Another treatment option was «individual therapy», which was determined by the attending psychiatrist. Patients visited their psychiatrist on average once every 10 days during the entire treatment period of 6 months.

Treatment effectiveness: The comparative efficacy of ECT and antidepressant therapy showed statistically significant differences in the equations of the 95% confidence interval based on clinical and statistical analysis. The pooled total effect size estimate based on clinical analysis to determine the pooled ratio of levels and their confidence levels for all studies was 1: 4, reflecting the significant treatment superiority in group 1 (ECT).

ECT has shown a higher level of therapeutic results compared to antidepressants (See figure).

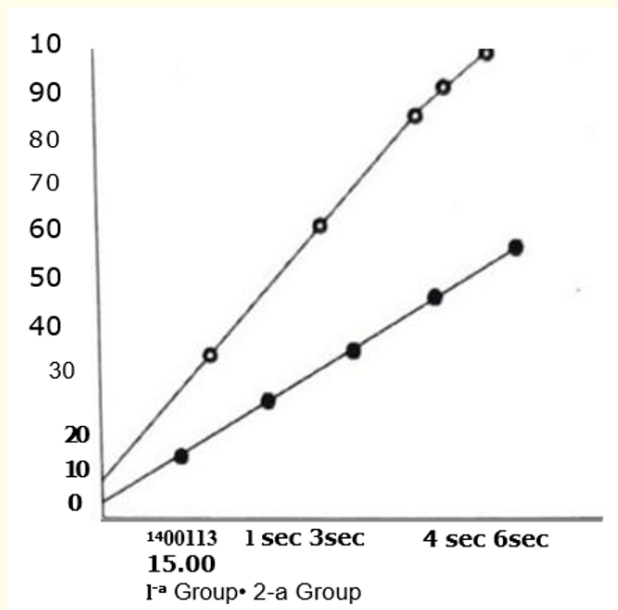


Figure : Dynamics of improvement in the condition of patients of groups 1 and 2 during treatment.

Results

The development of psychogenic and non-psychogenic depressive states in some cases was facilitated by mental trauma (in 20% of cases). In other cases, there were no tangible reasons for the development of a depressive episode; the disease arose as if spontaneously, without any particular reason. In 10.5% of cases, the traumatic situation was the trouble associated with newborn babies: the birth of a premature baby (45.6%) or a child with severe congenital pathology (24.2%), birth trauma (20.0%). In other cases (11.2%), there were no serious reasons.

The main symptoms of all groups were the classic symptoms of a depressive episode: a significant loss of physical energy, lack of joy, tearfulness, sleep and appetite disorders, at times the appearance of suicidal thoughts («I do not see the meaning of life»); anxiety disorders were in the nature of fears not to cope with the upcoming life difficulties, accompanied by apathy, their own helplessness. Among those examined there were cases of aggravated heredity (depression and other mental illnesses, such as schizophrenia, Alzheimer's disease).

Based on the foregoing, it can be argued that mental trauma (unhappy family relationships) can act as a traumatic situation and cause depression in the presence of certain conditions: personality accentuations and altered body reactivity.

Data on the frequency of occurrence of various options for traumatic factors are presented in table 2.

Psychotraumatic and other factors in both groups (n = 450)		
Factor	Number	
	n	%
Complex intrafamily relationships	140	31,10
Mental trauma	178	39,56
Childbirth as a stressful factor	52	11,56
Disorder of newborns	35	7,78
For no particular reason	45	10,00

Table 2: Nature and frequency of occurrence.

Based on the level of reliability according to the Pearson χ^2 test, the differences between groups 1 and 2 were 37.77% (reliability $p < 0.01$). With the anxious-depressive type of disorders, the leading in the clinical picture was anginal symptoms in combination with illness and low mood. The structure of depressive experiences depended on the nature of the traumatic situation. In most cases, the main theme of depressive thoughts was worries about their future life, the lives of children and other family members. Anxiety disorders in patients were characterized by a feeling of uncertain danger, anticipation of impending unpleasant events, very often a catastrophe. There were somatic manifestations of anxiety in the form of hand tremors, lability of blood pressure, increased heart rate (110 - 125 beats/min), sweating. Frequent tearfulness was one of the main signs of a depressive episode. Not themselves attracted the attention of «restless» facial expressions, anxious faces, running eyes, slowed down, and sometimes accelerated speech.

Hysterical-depressive disorders were detected only in psychogenic depressions and were not associated with somatogenic and endogenous depressions. This allows us to draw a conclusion about the relative nosological specificity of this phenomenon, the logical type of disorders.

Reduced mood in the hysterical type of depression was combined with a demonstrative behavior and exaggeration of the severity of existing disorders. The structure of depressive experiences was dominated by themes of one's own health, while worries about other family members were noted to a much lesser extent. Conversion symptoms in the form of draining of a «lump in the throat», «weakness in the limbs», etc. were characteristic. Very often, irritability, a tendency to violent affective reactions to insignificant events were noted. There were such manifestations as sobbing, complaints of «lack of attention», «lack of assistance in caring», «lack of understanding of the severity of their condition».

The asthenodepressive type was characterized by depressed mood, decreased physical activity, and the presence weakness, increased fatigue, feelings of decreased vitality. The patients showed a decrease in tolerance to daily stress, exhaustion. Cognitive difficulties were typical, manifested in subjective experiences of «concentration difficulties», «periodic sensations of emptiness in the head», in an increase in the time of answers to asked questions. Manifestations of mental hyperesthesia were often noted. Patients complained that “the sounds seem too loud”, “the light hurts the eyes”, “it irritates the touch of clothes”, “the presence of people nearby interferes”. The melancholic type of depression was characterized by the relative uniformity and purity of the depressive triad. The clinical picture was determined by causeless pessimism, despondency, depression, the phenomena of ideational and motor inhibition.

Discussion

The main result of this study showed a limited clinical efficacy in the treatment of depression with antidepressants (51% effect). The level of final results in the group where the ECT method was used was significantly higher and statistically significantly different from the results in the 2nd group, where only antidepressants were used ($p < 0.001$).

A systematic review, carried out in accordance with the British Reference Guidelines, found limited efficacy for all types of antidepressants in short-term randomized controlled trials of depressive disorders [14,16,17,20,21]. Earlier reviews of the treatment of juvenile depression concluded that tricyclic antidepressants are ineffective, especially in prepubertal children, with little efficacy in adolescence [14,17,21]. Reviews of SSRIs also suggest limited efficacy of antidepressants in different age groups of patients with depression; long-term exposure to fluoxetine cannot be beneficial when used in young patients [14,19]. The fact that antidepressants, and especially SSRIs, have the ability to raise mood in young people, can be assumed based on the significant risk in these patients of developing agitated or manic states during treatment of severe depression [16,17].

On the basis of statistical data, a positive effect of ECT was found in patients with deep (severe) depression in comparison with the use of tricyclic antidepressants [12,13,15,18].

Despite some positive aspects of antidepressant treatment, in depressed patients at any age with a high risk of suicide, the usual use of tricyclic antidepressants is not recommended due to their known cardiotoxic effect in overdose.

Poor disaggregation of antidepressant and ECT responses may reflect recruitment of adolescents with relatively heterogeneous conditions who may have met the nominal diagnostic criteria for severe (profound) depressive disorder, but whose symptoms may not have been consistent with classic disorders such as endogenous and melancholic traits. associated with major depression in adults. Improvements in diagnostic and clinical assessment techniques can improve the reliability of diagnosis of major depressive disorder in young people, although it is not necessary to find valid comparisons to major depressive disorder in adults [19-21].

The question of assessing the risk/benefit of prescribing antidepressants in juvenile depression requires a critical assessment of the value of moderate size of effect, usually based on 50% symptom relief assessed as described here versus actual clinical efficacy to be studied in patients.

Outcomes in future studies may be expanded by increasing the sample size to include patients with more severe depression from other (younger) age groups. The studies should also include information on the percentage of people with mild to moderate depression at the start of the study. Moreover, the results of all well-designed studies should be publicly available regardless of outcome, since publication error can affect the available efficacy measures or side effects in the meta-analyses on which therapeutic practice and health policy are based. The top priority is the development of safer, more cost-effective and affordable short and long-term treatment for depression with tailored solutions for age-specific differences.

Conclusion

Considering the presence of autointoxication in the pathogenesis of depressive disorders, the use of efferent and immunostimulating therapy can be considered justified methods of treating depression, since this enhances the effect of active detoxification and relieves toxic stress. The ECT method can be introduced as a permanent complex of therapy for depressive disorders in cases of proven intoxication and ineffectiveness of traditional antidepressants.

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