



Electroconvulsive Therapy in Schizophrenia

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Editorial

Shortly after the introduction of Electroconvulsive Therapy (ECT), the first reports emerged on its use as a treatment for major psychoses, including schizophrenia [1,2]. With the launch of psychotropic drugs in the 1950s, the use of ECT dropped [3]. Recognition of limitations in the efficacy of antipsychotic drugs and adverse effects of their prolonged use returned interest in ECT as a therapy for schizophrenia in the 1970s [4].

The induction of a seizure for therapeutic purposes by the administration of electroconvulsive therapy recently remains a treatment option for schizophrenia. The Cochrane review pools data from 26 studies that included over 798 participants in receipt of this treatment [5]. The evidence suggests that ECT, combined with antipsychotic drugs, may be considered an option for people with schizophrenia, particularly when rapid global improvement and reduction of symptoms is desired. ECT is also useful in those schizophrenia patients who show limited response to medication alone.

Kaster et al. [6] recently examined the clinical records of 144 patients with a DSM-IV diagnosis of schizophrenia or schizoaffective disorder who were treated at an academic mental health hospital from 2009 to 2014. These patients received 171 acute courses of ECT. Treatment with ECT resulted in a 76.7% response rate. Factors associated with a better response to ECT were absence of treatment with antiepileptic medication, a previous good response to ECT, and primary indication for ECT referral other than failed pharmacotherapy. Treatment with ECT caused transient cognitive impairment in 9% of treatment courses; no demographic or clinical factors were associated with cognitive impairment. From this point of view, ECT appears to be an effective treatment option for schizophrenia that is tolerated by the majority of patients.

There are few available studies on the topic of maintenance ECT (M-ECT) in schizophrenia. Maintenance electroconvulsive therapy as an alternative treatment for refractory schizophrenia and schizoaffective disorders was suggested by Levy-Rueff et al. [7]. They described a clinical cohort of 19 refractory schizophrenic or schizoaffective patients. M-ECT was indicated when a total or a partial failure of neuroleptic treatment had led to an increased frequency of acute episodes or to an increase of symptom intensity, such as suicidal ideas, delusions, and anxiety. The patients were simultaneously treated with antipsychotics. M-ECT appeared efficient on mood symptoms, delusions, anorexia, suicidal behavior, and anxiety symptoms. Under M-ECT, the mean duration of yearly hospitalizations decreased by 80%. The authors also observed an improvement in the daily functioning for most of the patients.

Kristensen et al. [8] examined charts from 79 patients diagnosed with schizophrenia (N =55), persistent delusional disorders (N =7), and schizoaffective disorders (N =17) who were treated with ECT between 2003 and 2008 in the Copenhagen area. Maintenance ECT was given to 18 patients. Hospitalization and increased pharmacological treatment were insufficient for treating the exacerbation. The initial indications for M-ECT were psychosis, affective symptoms, delirious state, and assaultive behavior. The duration of M-ECT treatment varied between 3 months and 12 years. Most treatment intervals were 2 or 3 weeks. A minority of the subjects received more than 80 ECT sessions, with the maximum being over 125. Pronounced side effects, such as severe memory loss, were not observed in any patients. Sixteen patients showed an excellent or good response and two patients showed a moderate response. All 18 patients were able to live outside the hospital, most in specialised nursing homes, and some were employed as well.

Kristensen et al. [9] described a cohort of forensic psychiatric patients with schizophrenia treated with electroconvulsive therapy in Denmark. Four of them were on maintenance ECT therapy with 50 to 115 applications. No adverse effects were documented. According to the authors, ECT should not be forgotten as an adjunctive treatment to pharmacological treatment in pharmacoresistant, assaultive psychotic patients.

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Based on a naturalistic-observational study in 27 patients suffering from schizophrenia, Hustig & Onilov [10] found that ECT proved a valuable and safe augmentative procedure when unsatisfactory response to pharmacological interventions had been demonstrated prior to ECT. This effect was evident despite the chronicity of the illness.

In a review of relevant literature, Palinska et al. [11] concluded that continuation and maintenance electroconvulsive therapy reduces the risk of schizophrenia relapsing and recurring.

Zervas et al. [12] published a review on using ECT in schizophrenia. ECT beyond the acute course refers to treatments applied at intervals of 1 week to 1 month. According to the authors, use of continuation and maintenance ECT treatments in ECT responders appears beneficial.

The aim of our retrospective naturalistic observational study (submitted for a publication) was to describe the use of maintenance electroconvulsive therapy in chronic pharmacoresistant schizophrenia. We delineated 19 cases (average age 53 years; females N=12; inpatients N=17) of chronic pharmacoresistant schizophrenia recently treated with maintenance electroconvulsive therapy at the Havlickuv Brod Psychiatric Hospital in the Czech Republic. The typical frequency of M-ECT was 1x/1-4 weeks for several dozen months (median 70 months). The median number of sessions was 142. M-ECT was of no benefit in the treatment of chronic hallucinations and/or delusions. However, it did prove beneficial in removing chronic serious symptoms like suicidal or violent behavior, automutilation, refusal of food or liquids, stupor or catatonia. It was possible to reduce the dosage of prescribed antipsychotics or benzodiazepines. Even though almost all of our patients remained hospitalized, we were nonetheless able to transfer them to an unlocked psychiatric ward and let them out for walks or occupational therapy. No serious adverse side effects of M-ECT were found.

There are several ways to organize further research into maintenance ECT in chronic schizophrenia. Simple naturalistic clinical assessments should be supplemented by schizophrenia rating scales, measurements of quality of life, adverse side effects and cost-effectiveness, detailed evaluations of cognitive functions, brain imaging, and genetic/epigenetic testing in controlled randomized trials. Studies are needed to identify schizophrenia patients who may benefit from M-ECT. M-ECT should also be considered in younger patients.

In many aspects, ECT treatment in psychiatry has not yet been completely replaced by other methods. It is simple, quick, highly

efficient, and has few adverse side effects. The effect of ECT may also be seen in chronic pharmacoresistant schizophrenia. Maintenance ECT mitigates the impact of the disease and improves the social functioning of the patients. From a medical point of view, a great benefit of M-ECT is the reduction in serious and dangerous schizophrenia symptoms and the minimizing of the need for patient restraint. Maintenance ECT does not treat chronic core schizophrenia symptoms, e.g. like negative symptoms, but mostly mitigates behavior problems in these patients, which does make their lives more tolerable. M-ECT is still underused in treatment-refractory patients with schizophrenia.

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