

IMMEDIATE AND LONG TERM COMPLICATIONS ASSOCIATED WITH NON-CONVENTIONAL ECT AT TERTIARY CARE HOSPITAL IN FAISALABAD

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ABSTRACT

OBJECTIVE

To Measure Immediate and long term complications of Electro Convulsive Therapy (ECT) on the patients who received it.

STUDY DESIGN

Descriptive study

PLACE AND DURATION OF THE STUDY

The study was conducted in the Department of psychiatry and BS DHQ teaching hospital, Faisalabad Medical University from 01.07.2019 to 30.06.2020

SUBJECTS AND METHODS

443 electro convulsive treatment were included in the study using convenience sampling technique. Patients who received these ECTs were between 18-65 years of age, of both genders, presenting to Department of psychiatry and BS DHQ teaching hospital, Faisalabad Medical University with Resistant Depression, Bipolar Depression, resistant Schizophrenia, Resistant Mania, Major Depression with Suicide, Catatonia, Postpartum Psychosis and depression as per the criteria of International Classification of Diseases (ICD) version 10. Immediate complications were measured after each ECT while long term complications were measured at the end of ECT treatment. A pre designed check list was used to measure complications.

RESULTS

Out of 443 ECTs, 127 (27.3%) were given to male patients and 316 (71%) to female patients. Out of them 83.9% patients did not show any immediate complication. 8.9% showed headache, 4.9% has body aches and 2.4% had transient Amnesia. None of the patient reported any long term complications like Anterograde Amnesia, Retrograde Amnesia, Denture Disturbance, Burn or any other.

CONCLUSION

Conventional ECT has not been found associated with any long term complications. It implies that where needed ECT may not be avoided only because of unavailability of anesthesia.

KEY WORDS

ECT, Treatment resistant, Conventional ECT

INTRODUCTION

Electroconvulsive therapy (ECT) was introduced in 1938 and has been in use for almost 80 years. It involves administration of an electrical current to the brain through the scalp to induce a seizure under general anesthesia and muscle relaxants¹. ECT is utilized worldwide as one of the most effective biological treatment modalities for various severe, treatment-refractory or treatment-resistant psychiatric disorders, in particular, major depressive disorder, schizophrenia and Bipolar disorders². Evidences from various research revealed that ECT caused significant physiological and chemical changes at molecular level of the brain which accounts for its therapeutic effect³.

Evidence from both research studies and clinical practice suggested that ECT had greater short-term efficacy than antidepressants in major depression and bipolar depression^{4,5}, at least equal efficacy to lithium in acute mania⁶, and comparable efficacy with antipsychotics in schizophrenia/schizoaffective disorder⁷. Research studies also demonstrated that combined treatment with antipsychotic drug and ECT was characterized by a faster reduction of symptom severity and lower relapse rates compared with antipsychotic drug alone⁸.

Research studies have shown that ECT is the most effective and rapid treatment available for elderly patients with depression, bipolar disorder and psychosis⁹. In a study remission rates were found high with ECT in the elderly who also showed a more rapid response¹⁰. For patients who suffer from intractable catatonia and neuroleptic malignant syndrome, ECT can be lifesaving. For elderly patients who cannot tolerate or respond poorly to medications and who are at a high risk for drug-induced toxicity or toxic drug interactions, ECT is the safest treatment option¹¹. In 2014, the NICE Guideline for antenatal and postnatal periods recommended that ECT be considered for pregnant women with severe depression, severe mixed affective states or mania, or catatonia, whose physical health or that of the fetus was at serious risk¹². Literature also supported this^{13,14}.

Current neuroscience suggests that although short-term memory difficulties frequently occur immediately after electroconvulsive therapy (ECT), longer-term problems are less common. However, gaps in our knowledge remain regarding long-term cognitive problems after ECT, including memory function¹⁵.

Cognitive effects are the main limitation to the wider use of ECT, particularly the occasional acute confusion shortly after the treatment, retrograde amnesia and some losses in autobiographical (personal) memory longer term. Other aspects of the memory are either unchanged or improved¹⁶.

Gangadhar and Thirthalli (2010) reviewed the evidence on ECT frequency

and concluded that twice weekly ECT offers the best balance between therapeutic outcome and adverse effects. The length of a course varies but is usually between 6 and 12 treatments, although, occasionally, some patients may require more^{11,17}.

In countries with limited resources, ECT is practiced in a markedly different way from more developed countries; although administering ECT without anesthesia is not desirable, in the face of severe economic constraints, it is often necessary. A study administered ECT to 1520 patients (29% of the total admissions to the facility, out of these, 1352 (88.9%) did not get any kind of anesthesia during the procedure and no adverse effects were reported¹⁸.

Tertiary care hospitals in Pakistan have very limited recourses and personals in anesthesia that's why most of the psychiatric departments provide non conventional ECT after the informed consent to the patients but the data is not published to document the safety profile of the procedure. The current study is planned to assess short term and long term complications that may arise after non conventional ECT. The objective of my study is to measure immediate complications within 24 hours after ECT and to measure long term complications after completing treatment of ECT on each patient.

SUBJECTS AND METHODS

Participants

443 electro convulsive treatment were included in the study using convenience sampling technique. Patients who received these ECTs were 56. The patients were between 18-65 years of age, of both genders, presenting to Department of psychiatry and BS DHQ teaching hospital, Faisalabad Medical University. Participants were selected for the study using convenience sampling technique. Patients with Resistant Depression, Bipolar Depression, resistant Schizophrenia, Resistant Mania, Major Depression with Suicide, Catatonia, Postpartum Psychosis and depression are included. Patients were diagnosed as per the criteria of International Classification of Diseases (ICD) version 10 after detailed history and Mental State Examination. Other than above Psychiatric disorders, those with cardiovascular, respiratory, and central nervous system diseases which are the relative contraindications for ECT were excluded. patients were selected for ECT when they showed no improvement on pharmacotherapy alone.

Table 2
Descriptive statistics of the ECTs as per psychiatric diagnosis

Diagnosis	Frequency	Percent	Valid Percent
Resistant Depression	43	9.7	9.7
Retarded Depression	63	14.2	14.3
Postpartum Depression	4	.9	.9
Depression with Suicide	10	2.3	2.3
Psychotic Depression	37	8.4	8.4
Catatonic Schizophrenia	8	1.8	1.8
Resistant Schizophrenia	99	22.3	22.4
Resistant Mania	98	22.1	22.2
BAD Depression	27	6.1	6.1
Postpartum Psychosis	42	9.3	9.3
OCD e Depression	6	1.4	1.4
Resistant schizobssessive	6	1.4	1.4
Total	443	100.0	100.0

Out of 56 patients, 39% received 6 ECTs , 26.8% received 8 ECTs, and 33.9% received 10 ECTs.

Instruments

Immediate Complications were measured within 24 hours after ECT was given without anesthesia through a check list that included Headache, Body aches, short term Amnesia ,confusional state. Long term Complications were measured after completing treatment of ECT on each patient through a check list that included Anterograde Amnesia , Retrograde amnesia, Fracture, Burns, any other Complication.

Procedure

This study was approved by the Ethical Review Committee of the institute, Family education regarding treatment was done and Informed Consent was taken. Data were collected after each treatment of ECT and at the end of whole treatment. Data was entered on SPSS and Frequencies were measured.

RESULTS

Out of 443 ECTs 127 were given to male patients (27.3%) and 316 to females (71.7%). Most of ECTs were given to the patients who were young between age range of 21 to 30 and 31 to 40 years (see table 1 for details).

Table 1
Descriptive statistics of the ECTs as per age

Age	Frequency	Percent
18-20 years	71	16%
21-30 years	148	33.4%
31- 40 years	104	23.4%
41-50 years	85	19.1%
51 – 60 years	25	5.6%
60 +	10	2.2%
Total	443	100%

The most common Diagnosis receiving ECT was Resistant mania (22.1%) and Resistant Schizophrenia (22.3%). Total ECTs given for depression were 157 (35.44 %) which were categorized into Resistant, retarded, postpartum, psychotic and suicidal cases, retarded depression (14.2%) was most common among these (table 2).

83.9% of patients did not have any immediate complications,8.5% had headache,4.9% had body aches and only 2.4% had transient amnesia. None of the patient reported any long term complication



like Anterograde Amnesia , Retrograde Amnesia , Denture disturbance , Burns , Fracture or any other.

Table 3
Immediate Complications recorded after each ECT

Complication	Frequency	Percent
None	372	83.9%
Headache	38	8.5%
Body Aches	22	4.9%
Amnesia	11	2.4%
Total	443	100%

DISCUSSION

The objectives of this study were to see the efficacy of ECT without anesthesia in resistant psychiatric disorders; we measured immediate complications within 24 hours after ECT and late complications after completing treatment of ECT on each patient. Findings of the research showed that 83.9% of patients did not have any immediate complications, 8.5% had headache, 4.9% had body aches and only 2.4% had transient amnesia. No Delayed complications were reported after completing ECT sessions. This is also supported by another study held in Pakistan¹⁸ which showed that 88% patient who underwent ECT without anesthesia did not show any Complications.

Studies which were done on ECT under anesthesia showed very few or no delayed complications as well^{5,15,16,19}. Although it is desirable to do ECT under Anesthesia but in Countries like Pakistan lack of resources makes it difficult to do in every patient. It seems that there is not much difference in delayed complications by either ways of ECT. Moreover ECT is mostly decided for patients with severe psychiatric disorders which may put themselves or others at risk e.g patients of Suicidality , Stupor, catatonia , or severe Self neglect. So in such situation ECT can be life saving^{4,7,11,12}.

Further studies are needed to be conducted comparing the efficacy and Complications of ECT with or without Anesthesia in different patient groups. While also taking into account co morbidity like Hypertension, IHD etc.

CONCLUSION

Conventional ECT has not been found associated with any long term complications. It implies that where needed ECT may not be avoided only because of unavailability of anesthesia.

Conflict of Interest: None

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