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AN ANALYSIS OF THE EFFECTIVENESS OF ELECTROCONVULSIVE THERAPY IN PSYCHIATRIC CONDITIONS – A CASE SERIES REPORT

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ABSTRACT

Electroconvulsive therapy (ECT) has been shown to be effective for a number of psychiatric conditions which have been resistant to pharmacological and psychological management including depression especially with suicidal ideas, acute mania, catatonia, schizophrenia. (Dessens et al., 2016; Perugi et al., 2017; Tor et al., 2017) This case series analyses the effectiveness of ECT given to 9 patients with indications for ECT in a tertiary care hospital setting.

INTRODUCTION

Electroconvulsive therapy (ECT), formerly known as electroshock, is a standard psychiatric treatment in which seizures are electrically induced in patients to provide relief from psychiatric illnesses. The concept of using electricity to improve psychiatric conditions was first proposed by Ugo Cerletti and Lucio Bini in 1938. (ARUTA, 2011)

Although ECT has been proven to be effective in number of psychiatric conditions, it is being used sparingly in most psychiatric institutions. (Buley, Copland, Hodge, & Chaplin, 2017) Reasons for such poor implementation include stigma associated with the procedure among general population (Aoki et al., 2016), lesser experience of psychiatrists in the procedure, requirement of multiple sessions and cost factors. Also currently only modified ECT is permitted by law and also recommended by guidelines which cause requirement of operation theatre setting with presence of anaesthetist. These factors overshadow the benefits of ECT and imbibe a sense of hesitancy among psychiatrists to use ECT even when there are proper indications.

Indications for ECT include Depression especially with severe suicidal thoughts, bipolar disorder, schizophrenia, neurological conditions like malignant catatonia, neuroleptic malignant syndrome, status epilepticus, toxic delirium. (Bulteau et al., 2017; Dessens et al., 2016; Mirás Veiga et al., 2017; Weiner & Reti, 2017) Relative contraindications of ECT include space occupying lesions in brain, Glaucoma, retinal detachment, Pheochromocytoma, implanted defibrillators, pacemakers, vascular aneurysm, unstable angina, sever COPD, etc.

Some of the side effects of ECT include recent memory loss, confusion, headache and nausea. Most of the side effects can be managed conservatively.

We report a case series of ECT given to 9 patients with an analysis of the outcome measures.

CASE SERIES – METHOD & PROCEDURE

9 patients were given ECT in the course of 3 months. The cases include 3 cases of schizophrenia, 2 cases of depression and one case each of obsessive compulsive disorder, post partum psychosis, post stroke depression, and schioaffective disorder. The average number of sessions for each patient was approximately 6 sessions. Details regarding patients and number of sessions are elaborated in table 1

Table 1

S.NO	PATIENT	DIAGNOSIS	NO.OF.ECT
1	Mrs.H	Schizophrenia	3
2	Mrs.G	Post partum psychosis	4+4
3	Mrs.J	OCD	4
4	Mrs.R	Depression	4+3
5	Mrs.S	Schizophrenia	5+5
6	Mrs.K	Schizoaffective	5
7	Mr. M	MDD	4+3
8	Mrs.K1	Depression	3
9	Mr.S	Post stroke depression	4

All patients were thoroughly examined and investigated for any pre existing medical conditions and for any risk factors. Informed consent was obtained from the patients and their attenders after explaining the rationale for procedure, the possible side effects, the expected outcome, alternative treatment options and their outcomes, likely recovery period, approximate number of sessions required and cost factors. Anaesthetic fitness was obtained and ECT was given in operation theatre under general anaesthesia and muscle relaxant.

Bifrontal ECT was administered with starting duration of 1.2seconds @ 144Hz. Each patients received ECT every alternate days with intensity increased by 50% each time from previous setting. Seizure duration was noted manually using limb isolation method. Appropriate post procedure care was given. 4 patients reported of headache and 2 patients had confusion for few hours which was managed conservatively. 4 patients required maintenance ECT after about 3 months.

The Clinical Global Impression scale is a 3-item observer-rated scale that measures illness severity (CGIS), global improvement or change (CGIC) and therapeutic response. All patients were administered the CGIS scale at 3 time frames 1. Baseline (at the time of first interview) 2. After on pharmacotherapy for 1 week 3. After ECT.

OBSERVATION AND RESULTS

Clinical Global Impression Scale (CGIS) scores of each patient was tabulated and analysed.

Figure 1

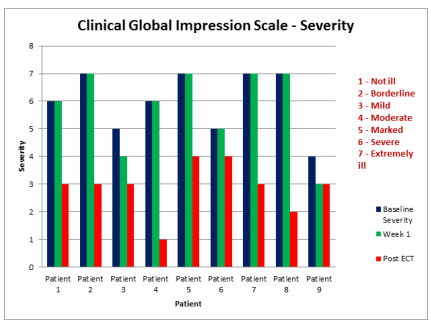
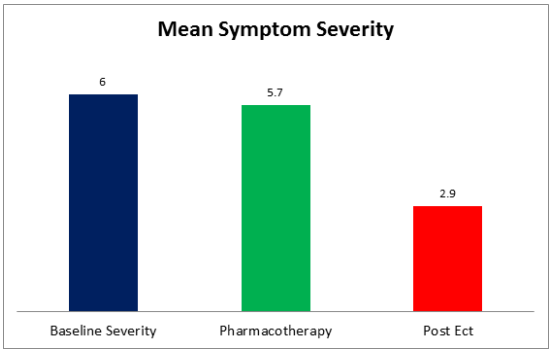


Figure 2 Mean scores of Clinical Global Impression Scale in baseline, after pharmacotherapy and post ECT



Analysis revealed that post ECT scores of CGIS was lower compared to both baseline score and after pharmacotherapy which indicates lesser severity of symptoms and better therapeutic response. The mean baseline severity score was 6 which indicates severe illness. After pharmacotherapy, the mean score was 5.7 which indicates no significant improvement. Mean post ECT score was 2.9 which corresponds to mild illness which indicates significant improvement.

DISCUSSION

Many studies have shown the effectiveness of ECT in psychiatric conditions. ECT has been shown to have a response rate of around 75 – 85 % in depression and hence is indicated in severe depression with suicidal ideas and for treatment resistant depression. ECT has also been proven to be effective in bipolar disorder with response rates of around 70-80% depending on type and presentation.(Perugi et al., 2017) Effectiveness has been observed to be more for bipolar disorder presenting with catatonic features (80%) and mania (75%). Schizophrenia is also a condition where ECT has been used and proven to be effective. Some studies report a response rate of around 75%. (Kaster, Daskalakis, & Blumberger, 2017; Tor et al., 2017) Most likely responders are in schizophrenia are presence of mood disturbance, short duration of illness, more of positive symptoms, overexcitement; acute, paranoid, catatonic, schizoaffective subtypes, dearth of premorbid personality deviance, presence of perplexity, mood congruent delusions and hallucinations and absence of a family H/o schizophrenia.

In our case series we report significant improvement of patient's symptoms after ECT. Out of 9 patients who received ECT, 4 had psychotic spectrum of illness and 4 had depression and 1 had body dysmorphic disorder with symptoms at a delusional level. Within group comparison of mean CGIS scores indicates that response rate was better in depression. Patients who required maintenance ECT were under psychotic spectrum. Response was seen in all patients administered ETC.

All the patients are under regular follow up and are on remission with maintenance pharmacotherapy.

CONCLUSION

Electroconvulsive therapy is an effective but forgotten method of management of psychiatric illnesses. Our case series report shows effective response of ECT in many psychiatric conditions. ECT not only helps in rapid reduction of symptoms but also reduces length of hospital stay thereby minimizing the caregiver burden. Side effects of ECT are minimal and easily manageable. Hence this series report shows that ECT can be considered as one of the front line management strategies for psychiatric illnesses.

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