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ISSUES IN THE USE OF MAINTENANCE ELECTROCONVULSIVE THERAPY

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This case report on the use of Maintenance Electroconvulsive Therapy (ECT-M) presents certain observations and raises some issues in the use of the method. The report offers wider indication for ECT-M, including schizophrenia and bipolar disorders and younger patients. It raises the issues that the duration of use of ECT-M can be short rather than indefinite and that in the post ECT-M period, drug maintenance using the same drugs which were ineffective pre-ECT-M can be used effectively. The report presents those observations for further systematic study. The cost benefit advantage of the method and its relevance to the need for more frequent use in developing countries is illustrated.

Key words: maintenance ECT, non-depressive psychoses, short-term use, post-ECT-M drug therapy, economic advantage.

INTRODUCTION

The use Electroconvulsive Therapy (ECT) in the treatment of acute phases of major psychiatric disorders is well known and its advantages over drugs in certain disorders like major depression and psychotic depression makes it the treatment of choice on some of those patients. However, following ECT induced recovery clinicians resort to drugs than ECT for maintaining the remission. But one is coming to realize that the pharmacologic agents often fail to manage effectively the relapsing nature of most psychiatric illness due to several factors, the prominent of which are drug resistance, poor drug compliance, intolerable side effects and the cost of drug management. In the late 1980's Fink had called for a renewed research interest on use of ECT as maintenance treatment (Fink, 1987) and recent reports showed this method of treatment under new light (Decina et al, 1987; APA, 1990; Monroe, 1991).

In India, and possibly in other developing countries, ECT is used more frequently than in the west, probably due to different socioeconomic factors here. However, there is a striking lack of report on the use of ECT-M from developing countries like India though a national survey on the use of ECT by psychiatrists indicated that its use in India is not uncommon (Agarwal et al, 1992).

This case report is based on our experience of using ECT-M at Sri Ramachandra Hospital in the past two years. Six cases are cited below to highlight the varied indications for use of ECT-M, the efficacy of the method and clinical and economic advantages over drug maintenance management and the issue of post ECT-M drug therapy. The term maintenance ECT (ECT-M) is used in this paper to mean its use for both the control of relapse (exacerbation of an ongoing episode) as well as recurrence (new episode following complete recovery) (Monroe, 1991).

CASE REPORTS

The table gives in brief, the details of the six patients. The clinical diagnosis was made using DSM III-R criteria. All the patients had initially responded well to ECT but subsequently had problem with drug maintenance regimens. ECT-M was started from the end of a course of regular ECT. Bilateral sinusoidal wave method of ECT was applied using cuff method to measure duration of the convulsion. Five received ECT at varying interval schedule (VIS-ECT), progressing from weekly (1st month) to fortnightly (2nd month) and subsequent monthly sessions. One received ECT at fixed interval schedule (FIS-ECT), at monthly intervals.

Informed consent was obtained from the patients and parents or spouses after the procedure and possible side effects were fully explained. The ECT-M was given for a period of 6 months to 2 years (This period of ECT-M was arbitrary for we lack information on exactly how long it should be given). The follow up after the last ECT varied from 8 months to 2 years. During the period of ECT-M all, except one, received low doses of medication (at least 50% lesser than the maintenance medication used before ECT-M). After the course of ECT-M, all the patients were maintained on drugs using lesser number of drugs and/or lesser and tolerable doses of the same drugs that were used before ECT-M. The type of drugs prescribed was subject to restriction by the cost and availability at the hospital.

The psychiatric status and cognitive side effects were evaluated by standard clinical evaluation and quantified by using the Neuro Behavioral Rating

ECT-M Clinical Details

S.No.	Age & Sex	Diagnosis	Problem with drugs	ECT-M Duration	ECT-M Follow-up	Drugs during and after ECT-M	Course during and after ECT-M
1.	52/F	MD	Cost Poor compliance Non response	14 months	1 year	Lower dose Imipramine(No drug during ECT-M)	Remission
2.	18/F	BPD	Cost Non response	2 years	1 year	Lower dose and lesser number antipsychotics	Less IP stay symptoms milder
3.	26/M	BPD	Cost Non response Non compliance	1 year	2 years	Lower dose Haloperidol	Remission
4.	32/F	PS	Side effect Relapses	6 months	8 months	Lower dose Chlorpromazine	Remission
5.	24/F	MD	Side effect Poor symptom control	8 months	1 year	Lower dose Imipramine	Remission
6.	28/M	PS	Side effect Poor symptom control	1 year	2 years	Lower dose Chlorpromazine	Remission

MD = Major Depression ; BPD = Bipolar Disorder; PS = Paranoid Schizophrenia.

Scale (Levin et al, 1987) and the Mini Mental State Examination (Folstein et al, 1975). The evaluation was done prior to each ECT and at least once in the interval between ECTs. There was no significant cognitive dysfunction in any of the patients. The acceptance of the method of ECT-M by the patient and the family posed no problems.

The economic aspects of ECT-M showed distinct advantages of their treatment. For example, in the case nos. 1, 2 and 3, the expenses for treatment for the patient and the hospital amounted to about Rs. 150 to Rs. 200 per month in the year preceding ECT-M. The application of one ECT costs only Rs. 30 approximately and reduction in number of drugs and drug dosage saved 50-60% of the expenses. The steady productivity due to stable remission induced by ECT-M led to further improvement in the earning capacity of the patients, as in case nos. 3, 5 and 6. One of the cases is described below to bring out certain issues in the use of ECT-M.

Mr S, was 28 years old, employed and unmarried. He has been under treatment and follow-up for paranoid type schizophrenia for the past 5 years. The general course of the illness, before starting ECT-M, had been one of repeated relapses with minimal but stable personality change in the intervals. The first episode of contact of 1 year duration was managed by use of drugs combined with ECT as an inpatient. ECT had been applied at this time because of his intolerance to higher dose of drugs and to shorten the period of hospitalization. Subsequent to this episode, he was continued on chlorpromazine which he tolerated better than other available drugs at a dosage of upto 200 mgms/day. During the next two years, he relapsed four times into an episode of illness which required an increase in drug dosage and a short course of ECT and brief hospitalization for two such episodes. Besides these episodes, he often experienced symptoms like insomnia and anxiety which were causing considerable distress.

An increase in the dose of chlorpromazine for maintenance did produce clinical stability but the patient felt side effects like drowsiness and dry mouth which was interfering with his return to normal work. This loss of work capacity despite clinical remission was causing monetary difficulties for the patient. He was started on ECT-M at monthly intervals given on weekend while on a minimal dose of chlorpromazine (100-150 mgms/day). ECT-M was given for twelve months and subsequently he was followed up for two years using only chlorpromazine at a dose of 100-150 mgms/day, which he tolerated well. The patient was in full and stable remission during the one year of ECT-M. This was maintained during the two year post ECT-M period.

DISCUSSION

The majority of studies on ECT-M suggests its use mainly in depressive illness, especially psychotic depression. Early reports of its use in schizophrenia and schizoaffective psychosis have been disputed for the criteria of diagnosis used (Stevenson & Geoghegan, 1951; Hastings, 1961). Rigorous diagnostic criteria have been used in our cases, indicating the use of ECT-M in disorders others than depression. Monroe (1991), at the end of his review, cautioned that one should not conclude that the method is effective only in relapsing or psychotic depression or in the elderly who are medication intolerant based on reports made those far. Hastings (1961) had argued that ECT-M would be the rational choice for prophylaxis for bipolar disease given the episode nature of the disorder. The present report supports such notions and points out that the common characteristics which favor the use of ECT-M, not withstanding the diagnosis, are relapsing nature of illness (with or without return to complete normalcy) and a good response to ECT in the initial phase. The other common indications for ECT-M mentioned earlier (Decina et al, 1987 were also illustrated in our cases. The cost-benefit advantage of ECT-M over drug therapy has been clearly experienced on our cases. In general, we found that there is at least a 3 to 4 fold decrease in cost with ECT-M to drugs. This advantage has impotent relevance to its practice under conditions like in India.

The majority of experience with ECT-M suggests that it should be used more extensive than at present. More liberal use of ECT-M could be attended with some risks. Cognitive impairment, although normally shown to be transient and minimal, may be a greater issue when ECT is applied over months or even years, especially in the elderly. However, the advantages far outweigh the disturbing and sometimes more harmful side effects of long term use of drugs. The other risk is the inability to decide when one is over-treating the condition. Our observation suggests that the period of use of ECT-M need not be indefinite and that it can be used for short periods to stabilize remission and further maintenance is facilitated with low dosage drug therapy, using the same drug as used prior to ECT-M. However, as mentioned before, we do not yet have enough data to decide the duration of ECT-M course in given patient. The issue of post ECT drug maintenance has been addressed by Monroe (1991) who questioned the use of same drug for maintenance when the patient had been nonresponding to them prior to ECT. Devanand et al (1991) have reported that patients respond better to antidepressants of a class different from that used prior to ECT. Hence the effective use of same drug post ECT-M in our cases needs explanation. We feel that this response observed could be due to better compliance with drug intake by the patient who is clinically better stabilized, improved tolerance of drugs by the patient and, lastly and most possibly that the disease process had become more amenable 'softened' to the same drug by the use of ECT-M.

In conclusion, the case reports attempt to bring to focus the following issues which require systematic study.

i) The use of ECT-M not only in depression but also in other major disorders with an episodic course and responsive to ECT and its use in younger subjects in contrast to its use often reported in the elderly.

ii) The course of ECT-M need not be indefinite and its use for a short time could facilitate further maintenance with drugs.

iii) The use of drug maintenance following ECT-M could involve the same type of drug and/or lesser amount of drugs than that used prior to ECT-M.

iv) The distinct cost-benefit advantage of ECT-M over drugs, which is highly relevant to its more frequent use under economic constraints.

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