INCIDENCE OF READMISSION BETWEEN SHORT-TERM ECT AND MAINTENANCE ECT

A. Toll Privat[1], D. Bergé Baquero[1,2], A. Mané Santacana [1,2,3], B. Samsó Buxareu[1], V. Chavarria Romero[1], A. Merino Torres[1], V. Pérez Solà[1,3]

[1]Institut de Neuropsiquiatria i Addiccions, Hospital del Mar, PSMar
[2]Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona, Spain
[3]Centro de Investigación Biomédica en Red de Salud Mental

INTRODUCTION

Although ECT was initially introduced as a treatment for schizophrenia, its use for this illness is now a controversial subject. Currently, antipsychotics are effective treatments for schizophrenia (they reduce symptoms such delusions and hallucinations and decrease the rate of relapse). But at least 20% of these patients fail to respond to antipsychotics. This fact plus the adverse effects of antipsychotic medication has revived the interest in the use of ECT in schizophrenia [1]. However, there is a lack of consensus among expert groups and clinicians regarding the efficacy of ECT in schizophrenia. It is also not clear at present which group of people with schizophrenia is most likely to benefit from ECT. Catatonic schizophrenia is the most often suggested indication, but it is also very commonly used in schizophrenia with affective symptoms and chronic or resistant illness [1].

Whereas the short – term ECT (between 12 and 20 sessions) combined with antipsychotic drugs is a common treatment in many hospitals, the maintenance/continuation ECT (administered fortnightly or monthly) to prevent relapse of symptoms is still a highly debatable issue [1] [2].
However, some studies suggest that the maintenance ECT added to antipsychotic drugs could be beneficial in reducing relapses compared with antipsychotics alone or ECT alone [2] [3].

OBJECTIVES

With this study we want to know if the administration of a maintenance ECT after a short – term ECT is associated with a decreased incidence of readmission compared with the acute ECT phase alone in patients with schizophrenia.

METHODS

From an extensive ECT database recording of our hospital, we retrospectively retrieved information of patients with diagnosis of schizophrenia or schizoaffective disorder who had received an acute ECT phase in our hospital since October 2006 to February 2014. Then, we differentiated them in two groups: patients who received also maintenance ECT and patients who did not receive more sessions of ECT. We retrieved their demographic characteristics and the technical characteristics (session number, electrode placement, program and stimulus maximum intensity delivered by a Thymatron System IV machine) of the short - term and maintenance ECT. Moreover, we quantified the number of admissions before and after the short - term ECT administration in both groups, and we also calculated their difference. Between-groups comparisons were performed using the Chi-Square test for categorical data and Mann-Whitney test and Wilcoxon test to compare the means for continuous data.

RESULTS

In all, 75 patients with schizophrenia or schizoaffective disorder received short-term ECT. Among them, 15 subjects received maintenance ECT too. There were no significant differences in age and gender between the two groups of patients. In both groups the most frequent diagnosis was paranoid schizophrenia. Furthermore we did not find significant differences in the diagnosis.
The mean number of sessions administered in the short - term ECT was 12,48, and in the maintenance ECT was 22. In both groups the bilateral placement was more frequent, but on the program used there were significant differences, whereas the predefined 0,5 pulse widht program was more frequent in short-term group, the x2 program was more common in maintenance group. Regarding the mean maximum intensity, in the short-term group was 81,25% of the predefined program and in the maintenance group was 125%.
Moreover, we did not find significant differences in the incidence of readmission and its total duration between the two groups. And neither we found significant differences if we calculate the difference of the number of readmissions and its total duration between before and after the administration of ECT.

Table 1. Demographic and technical characteristics.

	Short-term ECT	Maitenance ECT	U de Mann-Whitney	W de Wilcoxon	X2	p
Gender (%men)	66,7	46,7			2,052	0,232
Age (m, ds)	47,10 (13,2939)	48,20 (13,6399)	435,5	2265,5		0,848
Diagnosis (n, %)					0,956	0,916
Disorganized Schizophrenia	7 (11,7)	1 (6,7)				
Catatonic Schizophrenia	3 (5)	1 (6,7)				
Paranoid Schizophrenia	33 (55)	10 (66,7)				
Residual Schizophrenia	5 (8,3)	1 (6,7)				
Schizoaffective Disorder	12 (20)	2 (13,3)				
Sessions number (m, ds)	12,48 (3,382)	22 (14,948)	271,5	2101,5		0,017
Electrode placement (n, %)					0,253	0,615
Unilateral	1 (1,7)	0 (0)				
Bilateral	59 (98,3)	15 (100)				
Program (n, %)					5,21	0,022
0,5	46 (76,7)	7 (46,7)				
x2	14 (23,3)	8 (53,3)				
Stimulus maximum intensity (m, ds)	81, 25 (47,058)	125 (56,284)	243	2073		0,006

Table 2. Incidence of readmissions before and after ETC and the difference.

	Short-term ECT	Maitenance ECT	U de Mann-Whitney	W de Wilcoxon	X2	p
Admissions before ECT (m, ds)	1,43 (1,845)	2,27 (2,120)	346,5	2176,5		0,134
Total duration (in days) before ECT (m, ds)	43,85 (47,614)	81,8 (80,259)	332,5	2162,5		0,118
Readmissions after ECT (m, ds)	1.10 (1,811)	1,80 (2,305)	355,5	2185,5		0,179
Total duration (in days) after ECT (m, ds)	36, 27 (53, 576)	44, 13 (58, 264)	390	2220		0,399
Readmissions difference (m, ds)	0,33 (2,121)	0,47 (2,696)	393,5	2223,5		0,435
Total duration (in days) difference (m, ds)	7,58 (71,026)	37,67 (95,838)	382,5	2212,5		0,371

CONCLUSIONS

In our sample the administration of a maintenance ECT after a short-term ECT is not associated with a reduced readmission rate in patients with schizophrenia. Nevertheless it could be because patients who receive the maintenance ECT have a more severe and chronic schizophrenia. Sample size could also influence our results. More studies should be done to confirm this issue.

REFERENCES

[1] Tharyan P, Adams CE. Electroconvulsive therapy for schizophrenia. The Cochrane Database of Systematic Reviews, Issue. Art. No.: CD000076. DOI: 10.1002/14651858. CD000076.
[2] Chanpattana W. Maintenance ECT in treatment-resistant schizophrenia. J Med Assoc Thai. 2000; 83: 657-62.
[3] Ravani DB, Pantovi MM, Milovanovi DR, Duki-Dejanovi S, Janji V, Ignjatovi DR, Jovi SD, Jurisi V, Jevtovi I. Long-term efficacy of electroconvulsive therapy combined with different antipsychotic drugs in previously resistant schizophrenia. Psychiatr Danub. 2009; 21: 179-86.

**The authors declare they do not have any conflict of interest.*

INAD Institut de Neuropsiquiatria i Addiccions — Parc de Salut MAR Barcelona