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# Clinical Characteristics of Endogeneous Depressives who Respond to ECT

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## *Abstract*

While clinical predictors of outcome with electroconvulsive therapy (ECT) have been described for unselected depressives, little information is available on their applicability to endogeneous ("good prognosis") depression - a major indication for ECT today. To appraise the relevance of clinical variables in such a context, in a double-blind, prospective trial 32 endogeneous depressives (RDC) were treated with ECT. Of the 29 patients completing the study, 22 (75.9%) were deemed to have responded to treatment. The clinical variables of age, sex, polarity, affective episode number and duration, initial severity of depression, and qualitative as well as quantitative profiles on certain diagnostic and prognostic indices were compared between ECT responders and non-responders. Only past history of mania and responder status on the Newcastle Prognostic Index were significantly associated with good outcome, while there was a trend for lesser initial severity of depression to be so associated. The application of these findings to treatment options in endogeneous depression is discussed.

Key words -

**Electroconvulsive therapy,**
**Endogeneous depression,**
**Prediction of response,**
**Clinical factors**

While endogeneous depression is a depressive subtype known to respond well to electroconvulsive therapy (ECT) [1], it is common clinical experience that some patients fail to improve. In view of the growing concern over the possible side effects of ECT and the ethical and legal issues involved therein, it behoves the clinician to improve patient selection by identifying characteristics which indicate better response to this highly effective [2] treatment. Towards this goal, clinical,

psychological, physiological, biochemical, electroencephalographic and neuroendocrine measures have each been described [2], [3]. However, a major problem is that the majority of such studies have been conducted on unselected depressives, whereas "endogeneous", "psychotic", "very severe" and "resistant" depressions comprise the chief indications for treatment of depression with ECT today.

In this study, therefore, we examined the clinical variables in a cohort of depressed patients preselected for endogeneous symptomatology, in an attempt to identify factors that would differentiate ECT responders from non-responders.

## Material and Methods

The methodology and rationale thereof in this double-blind, prospective study have been reported earlier [3], [4], [5], [6], [7]; hence, only a summary is detailed herein. In a double-blind, prospective trial, 32 consecutive, untreated, endogenously depressed patients (RDC) received bilateral, modified, alternate day, sinusoidal wave or brief-pulse ECT. No concurrent medication was administered during the study. Using preset, operationalized criteria, treatments were discontinued when no further benefit to the patient was expected. At this point, all patients recovering ( 75% on the 17-item Hamilton Rating Scale for Depression (HRSD) were considered as ECT responders. The clinical data (recorded at the time of entry into the trial) of the ECT responders and non-responders were subjected to further analysis to ascertain which variable, if any, was associated with the ultimate outcome. The results are presented below.

## Results

Out of the twenty-nine patients completing the study, 22 (75.9%) were identified as ECT responders. The clinical variables of age, sex, polarity, affective episode number, episode duration, initial severity of depression and status on the Hobson [8] and Mendels [9] ECT Prognostic Indices as well as (qualitatively and quantitatively) on the Newcastle Diagnostic and Prognostic Indices [10], recorded at the time of entry into the study, were compared in the responder and the non-responder groups; these data are presented in table I. Newcastle Prognostic Index (qualitative data) differentiated responders from non-responders, while there was a trend for initial severity of depression to do so. The results are briefly discussed.

***Table I - Clinical variables in ECT responders and non-responders***

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## Discussion

Depression is indisputably the major indication of ECT today. Due to a worldwide, perceptible increase in sensitivity amongst patients and clinicians to the issue of the putative adverse effects of ECT, and due to the ethical and legal issues inherent therein, there seems to be a growing trend to treat depressed patients with ECT only when specifically indicated. Such 'specific indications' include

'endogenous', 'psychotic' (i.e., with delusions, hallucinations and/or stupor), 'very severe' and 'resistant' (to conventional drug therapy) depressions. While clinical, psychological, physiological, biochemical, electroencephalographic and neuroendocrine measures have been described [2], [3], few have been consistently validated, and even fewer have been established in the above mentioned depressions 'specifically indicated' for ECT. Hence, although some studies have addressed the issue of predicting outcome of depression following ECT using clinical parameters, we considered it necessary to reappraise the importance of these parameters in a cohort preselected for endogeneous symptomatology.

Of the sample, 75.9% showed good response to ECT which figure is reasonably representative [11]. Just two (polarity, and the qualitative data of the Newcastle Prognostic Index) of the 12 clinical variables studied differentiated (the ECT responders from the non-responders). It was seen that while unipolar and 'unclassified' (as the patient had experienced fewer than 3 effective episodes) depressions were represented groups, not a single bipolar patient failed to respond; this difference was statistically significant. In other words, endogenous depression with a past history of mania appears to be strongly associated with favourable response to ECT; such a finding has been both proposed [12] and refuted [13], [14], [17] in unselected depressives.

The utility of ECT prognostic indices [8], [9], [10] in unselected depressed patients has received mixed (but predominantly negative) appraisal [1], [15]; it has been opined that such indices would be unlikely to have value once an endogeneous population is defined [1]. This comment seems to have some validity at least in regard to the Hobson [8] and Mendels [9] indices as both indiscriminately classified virtually all the patients in the sample as good responders. However, the Newcastle Prognostic Index [10] did significantly predict good response, which finding supports an earlier report of its applicability to DSM III melancholics [16].

Interestingly, refinement of the 'endogenosity' of the sample by the superimposition of the Newcastle Diagnostic Index upon the already diagnosed (RDC) endogenous depressives failed to differentiate responders from non-responders. Also interesting was that despite 'endogeneous' being associated with good outcome [1] and the Newcastle Prognostic Index predicting favourable response, neither the Newcastle Diagnostic nor the Newcastle Prognostic Indices differentiated responders from non-responders when quantitatively analyzed. To our knowledge, these hypotheses have never been tested before.

There was a trend for lesser initial severity of depression to be associated with good response. In the only other similarly conducted study [16], an almost identical result was obtained: initial HRSD scores $< 25$ were associated with favourable outcome in ECT-treated DSM-III melancholics. At least in endogenous depressives, this finding should militate against the popular trend of prescribing ECT only to severely depressed patients. A similar finding has been reported for DSM-III major depression [17].

Age, sex, affective episode number and episode duration have never been seriously accepted to influence outcome in unselected depressives [18], [19], [20]; it is perhaps to be expected that these variables were unrelated to outcome in an endogeneous cohort.

In conclusion, we propose that a past history of mania, status of 'responder' on the Newcastle Prognostic Index and perhaps lesser initial severity of depression should weigh in favour of ECT when the treatment options for endogeneous depression are considered. Efforts to replicate these findings are warranted.

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