

basis and outcome determined with the Hamilton Rating Scale for Depression and the Global Assessment of Function scale.

Results: There were no differences in the six-month relapse rate between two groups. 25% of the patients in either group relapsed.

Conclusions: Patients treated with rTMS do as well as those treated with ECT at the six-month follow-up point. Our data suggests the clinical gains obtained with rTMS are long lasting.

- (1) Pascual-Leone A, Rubio B et al (1996), Safety of rTMS of LDLPF cortex in drug-resistant depression. *Lancet* 348: 233–237.
- (2) George MS, Lisanby SH, Sackeim HA (1999), TMS applications in psychiatry. *Archives of General Psychiatry* 56: 300–311.

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ELECTROCONVULSIVE THERAPY IS EFFECTIVE IN THE TREATMENT OF PATIENTS WHO FAILED TO RESPOND TO A COURSE OF REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION

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Background: Transcranial Magnetic Stimulation (TMS) has been proposed as a potential substitute of Electroconvulsive therapy (ECT) in severely depressed individuals. In this naturalistic study we report on the outcome of TMS resistant patients who were subsequently treated with ECT.

Methods: Fifteen rTMS non-responders patients were treated with ECT. Eleven of them suffered from MDD with psychotic features and four of them suffered from non-psychotic MDD. All the patients were assessed with the Hamilton Rating Scale for Depression (HRSD), the Brief Psychiatric Rating Scale (BPRS), the Global Assessment of Function Scale (GAS) and the Pittsburgh Sleep Quality Index (PSQI). Response to treatment was defined as at least a 50% decrease in the final HDRS score and a final GAS higher than 60.

Results: Six out of eleven psychotic patients and two out of four nonpsychotic patients responded to ECT. HRSD ($p < 0.04$, $t: -3.1$), GAS ($p < 0.08$, $t: 2.4$) and PSQI ($p < 0.06$, $t: -2.9$) scores changed significantly with ECT.

Conclusions: In this group of resistant patients ECT improved an important proportion of them. Although we did not have a comparison group of patients treated initially with ECT, it appears that the response rate to ECT of this sample was lower than that reported in other studies of ECT in depression

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REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION IS EFFECTIVE AS THE FIRST TIME IN THE TREATMENT OF RELAPSE OF DEPRESSION

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Objective: The aim of the study is to demonstrate the efficacy and the safeness of repeated repetitive transcranial magnetic stimulation (rTMS) in the treatment of relapse of depression.

Method: Five patients who were treated successfully with rTMS relapsed and received a second rTMS course. TMS was performed with MAGSTIM rapid equipment delivering 90% power of the motor threshold. The stimulation frequency was 10 HZ for 6 sec for 20 trains. Patients treated 20 treatment days. Clinical assessments were performed with the Hamilton Rating Scale for Depression

and the Global Assessment of Functioning scales at baseline, at week two, and at the end of the treatment.

Results: No significant differences found between the rating scales at the end of the treatment courses. There were no side effects due to rTMS treatment.

Conclusions: The second rTMS course was effective and safe as the first course.

- (1) Belmaker RH (1995), TMS-a potential new frontier in psychiatry, *Biological Psychiatry* 38: 419–421.
- (2) Grunhaus L, Dannon PN et al (in press) rTMS effective as ECT in the treatment of non-delusional MDD, *Biological Psychiatry*.

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LITERACY RATE, GROSS DOMESTIC PRODUCT AND SUICIDE RATE IN 33 EUROPEAN COUNTRIES

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We present a study of the associations between suicide and literacy rates for both male and female populations in 33 European countries where data for both rates are available. For both sexes, high literacy rates significantly predict high suicide rates even when controlling for gross domestic product – purchasing power parity (GDP) and age distribution. It is suggested that literacy rates may represent an important ecological risk factor for completed suicides. Two potential mechanisms for negative impact of high literacy rates can be made; the first is that high literacy leads to a better understanding of impoverished social circumstances. Indeed, when the GDP per capita is added to the linear regression model, the latter improves considerably. The second potential mechanism is that more literate individuals move more rapidly from simple pessimistic views towards hopelessness and suicidal ideation. On the other hand, it is also possible that literacy is just a confounding variable. For example, suicide statistics might be more reliable in countries with higher levels of literacy. Nevertheless, the striking finding that literacy and suicide rates are associated is worthy of further investigation.

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CORRELATION BETWEEN SUICIDE RISK, TIME SPENT IN PRISON AND VULNERABILITY PROFILE OF PEOPLE IN CONFINEMENT

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Previous studies have identified correlations between suicide and time spent in prison. The results however were contradictory. It was criticised that naive statistical approaches do not adequately account for the vulnerability profile of prisoners. To evaluate the suicide risk in prison a study was conducted using the case notes of all suicides ($n = 247$) having occurred in Austrian prisons between 1975 and 1999. The suicide risk factors associated with different circumstances (sentenced prisoners, prisoners on remand, length of custody, length of fine) were studied.

Method: The hazard was calculated, which reflects the suicide risk for the individual within a defined period of custody, using the Nelson-Aalen-estimator.