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Deep brain stimulation for refractory obsessive-compulsive disorder: a cohort of 70 cases with predictors of response

I. Graat [1], R. Mocking [2], P. De Koning [2], N. Vulink [2], M. Figee [3], P. Ooms [2], M. Mantione [4], P. Van den Munckhof [5], R. Schuurman [5], D. Denys [2]

[1] *AMC, Psychiatry, Amsterdam, Netherlands- The;* [2] *Amsterdam UMC, Psychiatry, Amsterdam, Netherlands- The;* [3] *Mount Sinai Hospital, Psychiatry, New York, United States;* [4] *UMC Utrecht, Psychiatry, Utrecht, Netherlands- The;* [5] *Amsterdam UMC, Neurosurgery, Amsterdam, Netherlands- The*

Background: Deep brain stimulation (DBS) is a neuropsychiatric intervention to precisely modulate brain circuits. Our 2010 randomized clinical trial showed effectiveness of DBS for obsessive compulsive disorder (OCD) in 16 patients [1], but clinical experience with DBS for OCD is still limited.
Aim: We now report on tolerability and effectiveness of DBS in our total clinical cohort of patients with refractory OCD that received DBS [2]. Moreover, we investigate whether response prediction can optimize patient selection [3]. Selecting responders beforehand would more optimally allocate treatment resources and prevent patient's disappointment.
Method: 70 consecutive patients received bilateral DBS of the ventral anterior limb of the internal capsule (vALIC) between April 2005 and October 2017 and were followed for 12 months. We assessed primary effectiveness using the Yale-Brown obsessive-compulsive scale (Y-BOCS), secondary effectiveness measures included the Hamilton Anxiety Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D). Baseline demographic and disease characteristics were linked to the course of the Y-BOCS. We used linear mixed models to examine whether baseline characteristics could predict response to DBS on a group level. Second, baseline characteristics were analyzed using Fisher's exact tests and binary logistic regression to examine whether they could predict individual response (>35% reduction in Y-BOCS).
Results: Y-BOCS, HAM-A and HAM-D scores all decreased significantly during the first 12 months of DBS. Twelve months of DBS resulted in a mean Y-BOCS score decrease of 13.5 points (SD=9.4) (40% reduction; effect size=1.5). HAM-A scores decreased by 13.4 points (SD=9.7) (55%; effect size=1.4), and HAM-D scores decreased by 11.2 points (SD=8.8) (54%; effect size=1.3). At 12-months, there was 52% response, 17% partial response, and 31% non-response. Adverse events included transient symptoms of hypomania, agitation, impulsivity and sleeping disorders. Late-onset OCD was associated with more OCD symptom decrease (β=-0.29, 95%CI-0.53;-0.04, p=0.023) and comorbid personality disorder with less OCD symptom decrease over time (β=0.88,95%CI-0.29;1.47, p=0.004) on a group level, but they could not significantly predict DBS response. Insight in illness (as measured by the Brown Assessment of Believes Scale) was the only significant predictor of individual response according to the Y-BOCS. The positive predictive value was 84.4%, while the negative predictive value was 44% (b=0.247, X2(1)=5.259, p=0.022). The response rate of late onset OCD patients remarkably differed when dichotomizing by insight in illness (OR 66; 95% CI 3.47 - 1254.64, $p < 0.01$). Patients with late onset of OCD and good insight were the most likely to respond to DBS, while patients with a late onset of OCD and poor insight were less likely to respond.
Conclusions: DBS is an effective and safe intervention for OCD, with large effect sizes in a treatment refractory population. Clinical and demographic factors cannot yet predict outcome and should not be used to exclude patients from treatment with DBS, though an older age of OCD onset and good illness insight were associated with better response to stimulation.

References

[1] Denys, D, Mantione, M, Figee, M, van den Munckhof, P, Koerselman, F, Westenberg, H, Bosch, A, Schuurman, R., 2010 Oct. Deep brain stimulation of the nucleus accumbens for treatment-refractory obsessive-compulsive disorder. Arch Gen Psychiatry 67 (10), 1061–1068.
[2] Denys MD PhD, Damiaan, Graat MD, Ilse, Mocking MD PhD, Roel, de Koning MD PhD, Pelle, Vulink MD PhD, Nienke, Figee MD PhD, Martijn, Ooms PhD, Pieter, Mantione PhD, Mariska, van den Munckhof MD PhD, Pepijn, Schuurman MD PhD, Rick, 2020. Deep brain stimulation of the ventral ALIC is effective for refractory obsessive- compulsive disorder: a clinical cohort of 70 cases. Am J Psych.
[3] Ilse Graat, Roel Mocking, Pelle de Koning, Nienke Vulink, Martijn Figee, Rick Schuurman, Damiaan Denys. Predicting response to deep brain stimulation for refractory obsessive compulsive disorder. Under review, Clinical Journal of Psychiatry

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Effect of a focused social and communication intervention (SCI) on preterm children at risk for ASD: a pilot study.

Á. Bejarano-Martín [1], R. Canal-Bedia [2], M. Magán-Maganto [2], A. Hernández Fabián [3], A.L. Calvarro Castañeda [2], S. Manso de Dios [2], P. Malmierca García [2], E. Díez Villoria [2], C. Jenaro Río [2], M. Posada de la Paz [4]

[1] *Instituto de integración a la comunidad INICO. Universidad de Salamanca, Personalidad- evaluación y tratamiento psicológico, Salamanca, Spain;* [2] *INICO- Instituto Universitario de Integración en la Comunidad- Universidad de Salamanca- Spain., INICO- Instituto Universitario de Integración en la Comunidad- Universidad de Salamanca- Spain., Salamanca, Spain;* [3] *Hospital Clínico Universitario de Salamanca- Spain., Hospital Clínico Universitario de Salamanca- Spain., Salamanca, Spain;* [4] *Instituto de Investigación de Enfermedades Raras- Instituto de Salud Carlos III, Instituto de Investigación de Enfermedades Raras- Instituto de Salud Carlos III, Madrid, Spain*

Background: Advances in intensive neonatal care have greatly improved the survival rate of preterm infants [1]. However, the incidence of neurodevelopmental disorders in this group, such as Autism Spectrum Disorder, is one of these behavioural problems observed. The aim of early

intervention is to anticipate to these impairments, in order to increase social communication skills and reduce the symptoms in this area. However, none of these early intervention programs has studied their efficacy in preterm children at risk for ASD.
Objectives: To this end, we conducted a pilot focused social-communication intervention (SCI) aimed to investigate results in broader gains in social, cognitive, language and adaptive functioning in young preterm children at risk for ASD (measured with ADOS and M-CHAT-R/F). More specifically, we sought to: (a) examine the effect of the social-communication intervention program in preterm and full-term young children at risk for ASD, (b) explore the differences in intervention gains between preterm children at risk for ASD, full-term children at risk for ASD (comparison group), and preterm children (control group), and (c) investigate the individual effect intervention.
Methods: Eighteen children between the ages of 18 and 20 months participated in the study. The eighteen children were assigned to three groups: (1) preterm children at risk for ASD who received intervention (experimental), (2) full-term children at risk for ASD who received intervention (comparison), and (3) preterm children (control). In the intervention, children participated in fifteen weekly individualized 2-h session with a researcher that emphasized embedding strategies targeting imitation, joint attention and play into everyday routines and play activities. Child outcomes variables were collected through standardized and observation measures. Statistical analyses were performed in two ways: (1) analyses by group, determining the significance and effect of the intervention in each group; and comparing groups. (2) analyses by participant, determining the significance and effect of the intervention of each participant.
Results: Findings indicate that children in the intervention groups made significantly greater gains in object imitation, play, language and communication at pre-post-treatment than the control group. Further, there were no differences between preterm and full-term children at risk for ASD in any domain. Individual analyses showed that, except for joint attention and the ADOS-T module measures, the mean of preterm children at risk for ASD was a reliable change. The lack of reliable changes within the Preterm group suggests that this group trajectory is stable across months
Conclusions: The promise of these data demonstrates that change can be made in core developmental problems for preterm children who are at risk for ASD with a low-intensity intervention targeting social and communication skills. Thus, this pilot data emphasized the need for further research and implementation of early interventions in young preterm children at risk for ASD targeting social-communication skills. Research on the longer-term effects of the intervention and larger population of preterm children is needed, to examine possible mediators and moderators of intervention outcomes on children's social and communication abilities.

Reference

[1] Anderson, J.G., Baer, R.J., Partridge, J.C., Kuppermann, M., Franck, L.S., Rand, L., Jelliffe-Pawlowski, L.L., Rogers, E.E., 2016. Survival and Major Morbidity of Extremely Preterm Infants: A Population-Based Study. Pediatrics 138 (1). doi:10.1542/peds.2015-4434.

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Undetermined predominant polarity in bipolar disorder: time to refine an overlooked population

G. Fico [1], G. Anmella [2], M. Sagué-Villavella [2], I. Pacchiarotti [2], E. Vieta [2], A. Murru [2]

[1] *Hospital Clínic Barcelona, Bipolar and Depressive Disorders Unit, Barcelona, Spain*; [2] *Hospital Clinic of Barcelona, Bipolar and Depressive Disorders Unit- Institute of Neuroscience, Barcelona, Spain*

Background: Predominant polarity (PP) is a concept used to define the course of illness of some patients with a tendency to predominantly relapse into either depressive or manic episodes. The concept of PP was operatized and consistently defined [1], as depressive (DPP) or manic (MPP) based on - respectively - depression or mania representing two thirds of the total affective relapses. MPP and DPP have been largely studied as well as their clinical correlates [2]. Still, in most studies considering PP, the majority of patients do not show a specific PP, being defined as having an undetermined predominant polarity (UPP) [3]. We hypothesize that UPP might underpin a subpopulation of patients with a higher number of relapses, also facilitated by a lower adherence to treatments, thus representing an overlooked group of patients with a severe course of illness and worst clinical outcomes. Based on this hypothesis, we decide to study UPP and outline its socio-demographic, clinical, and treatment-related features.
Methods: Patients were recruited from a BD specialized unit. The sample was divided into three groups according to predominant polarity (DPP, MPP, and UPP) and groups were compared as per socio-demographic and clinical correlates. **Comparative analyses for demographic and clinical characteristics of the groups were done with unpaired t-test or a Mann-Whitney U-Test for continuous variables. Categorical data were analysed by $\chi 2$ analysis.** Significant variables at univariate comparisons were included in multivariate logistic regression with UPP as the dependent variable. **Results were considered significant if they exceeded a Bonferroni corrected P-value threshold.**
Results: The final sample included 504 BDI (71%) and 205 BDII (29%) patients. UPP was identified in 437 patients (61.7%), DPP in 136 (19.2%) and MPP in 135 (19.1%). Patients with UPP showed a higher number of lifetime affective episodes, when compared with DPP or MPP ($\chi 2$= 28.704, p<0.001). Patients with UPP were more likely to be female ($\chi 2$= 4.997, p=0.25), suffered more lifetime affective episodes (H=45.04, p=0.00), showed an association with suicide attempts ($\chi 2$= 9.772, p=0.08), aggressive behaviour ($\chi 2$= 9.002, p=0.031), seasonal pattern ($\chi 2$= 10.400, p=0.006), and rapid cycling ($\chi 2$= 33.390, p=0.000). Furthermore, lifetime number of mixed episodes (OR= 1.407; CI 95%= 1.135-1.745), aggressive behavior (OR=1.786; CI 95%= 1.144-2.786), seasonality (OR=