Abstract

Functional Magnetic Resonance Imaging (fMRI) data acquired during semantic and phonological verbal fluency tasks were shown to allow for diagnosis of Major Depressive Disorder (MDD) with 90% accuracy [1]. We demonstrate that the activation in the brain areas selected through the so-called group LASSO algorithm [2] applied in [1] significantly correlate with symptoms as well as other commonly MDD associated characteristics.

31 MDD patients and 31 age and sex matched healthy controls underwent a detailed interview, where following common MDD scores were assessed: BDI2, PHQ-9, HRSD17, GAF, CATS, LES, PANAS, STAI (for abbreviations see [3]).

fMRI data acquired during a phonological and a semantic verbal fluency task were processed in conventional way and the activation-maps of all subjects subjected to the group LASSO algorithm [1]. This resulted in a weight map for each verbal fluency task. The mean brain activation during the respective tasks was calculated for each region of interest indicated in the maps. Finally, the correlation between each region of interest and the interview scores was evaluated.

Five ROIs located in precentral cortex, pars triangularis, inferior frontal operculum, insula and postcentral gyrus of the left hemisphere showed significant correlation with the interview data (p<0.001). Correlated MDD characteristics were several depression severity measures (BDI, PHQ, GAF), but also diathesis (CATS and negative LES) and specific symptoms (SHAPS, PANAS and STAI). All of the above, except for LES showed significant correlation with the post central gyrus.

The results elucidate the relation of the brain areas relevant for the classification model evaluated in [1] with depression severity, diathesis and certain MDD characteristics. Even though causality remains to be investigated, the results give insight into how integrative effects might finally induce depression.

Reference

[1] Y. Shimizu, J. Yoshimoto, S. Toki, M. Takamura, S. Yoshimura, Y. Okamoto, S. Yamawaki, K. Doya, T. Kato, Toward Probabilistic Diagnosis and Understanding of Depression Based on Functional MRI Data Analysis with Logistic Group LASSO. PlosOne 2015; 10(5).

[2] Friedman J, Hastie T, Tibshirani R. Regularization Paths for Generalized Linear Models via Coordinate Descent. J Stat Softw. 2010;33(1).

[3] Beck’s Depression Inventory 2 (BDI2), PHQ-9, Hamilton Rating Scale for Depression (HRSD17), General Assessment of Functioning (GAF), Child Abuse and Trauma Scale (CATS), Life Experience Survey (LES), positive and negative affect scale (PANAS), State Trait Anxiety Inventory (STAI).

PANIC DISORDERS: PS245 – PS250

PS245

Outcome of naturalistic pharmacological treatment in panic disorder patients with the respiratory subtype

Title: Outcome of naturalistic pharmacological treatment in panic disorder patients with the respiratory subtype

Authors:

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Abstract

Introduction: According to DSM5 (1) panic disorder (PD) is a unitary diagnosis, however, recent studies point to distinct PD subtypes. The respiratory subtype (RS) is the most studied subtype and there is abundant evidence of its validity. (2, 3) Compared to non-respiratory subtype (NRS) patients the RS patients have more psychiatric comorbidities, more familial history of PD and higher sensitivity to carbon dioxide, hyperventilation and caffeine. (2–5)

Objectives: Ascertain if RS patients have a more severe form of PD and respond poorly to pharmacological treatment, compared to NRS patients.

Methods: 60 PD patients without treatment were recruited for the current study. Clinical evaluation and administration of scales and questionnaires were made in the first hospital visit. The clinicians chose the medications freely and started the treatment, after 4 weeks doses were adjusted and medications were switched if necessary. All subjects were evaluated again with the same instruments after 8 weeks of treatment. The instruments used were: Mini International Neuropsychiatric Interview (MINI)(6); Panic and Agoraphobia Scale (PAS)(7); Clinical Global Impression - severity and improvement (CGI-S and CGI-I)(8); Beck Anxiety Inventory (BAI)(9); Beck Depression Inventory (BDI) (10); Diagnostic Symptom Questionnaire (DSQ)(11).

Results: Only 33 patients concluded the study. In baseline RS patients had more comorbidities with agoraphobia (P= 0.02), higher scores in PAS (P= 0.03), BAI (P< 0.01), BDI (P= 0.05) and DSQ (P< 0.01), compared to NRS patients. In the comparison between baseline and 8-week evaluations, with all patients, there were significant improvements in CGI-S, PAS, BAI and BDI (all with P< 0.01). 56.4% of the patients responded to treatment. There were no statistically significant differences between RS and NRS regarding the improvement and response to treatment.

Conclusion: RS patients presented initially a more severe form of PD, but they had a good response to treatment, indistinguishable from the response of NRS patients.

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**PS246**
Psychological Dependence on Antidepressants in Patient with Panic Disorder: A Cross-Sectional Study
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**Abstract**
**Objective:** The aim of this cross-sectional study was to examine the prevalence of psychological dependence on antidepressants in outpatients with panic disorder and elucidate demographic and clinical characteristics associated with this condition.

**Methods:** This study was conducted in four outpatient clinics in Tokyo, Japan from April, 2014 to March, 2015. Subjects were eligible if they were outpatients aged 18 years or older and met the diagnostic criteria for panic disorder according to the International Classification of Diseases, 10th edition (ICD-10). The subjects received the following assessments: the Severity of Dependence Scale, Japanese Version (SDS), the Self-Report Version of Panic Disorder Severity Scale, Japanese Version (PDSS-SR), and the Quick Inventory of Depressive Symptomatology-Self Report, Japanese Version (QIDS-SR). The following information was also collected: age, sex, ethnicity, duration of illness, physical and psychiatric comorbidities, and details of prescribed psychotropic medications.

**Results:** Eighty-four patients participated in this study; of these, 30 patients (35.7%) showed psychological dependence on antidepressants in outpatients with panic disorder and the prevalence of psychological dependence on antidepressants in outpatients with panic disorder and elucidate demographic and clinical characteristics associated with this condition.

**Conclusion:** Approximately two-fifth of the patients with panic disorder receiving antidepressants fulfilled the criteria for psychological dependence on these drugs. The results underscore the need of close attention, especially to those who present severe symptomatology or have a chronic course of panic disorder.

**PS247**
High relapse rate after efficacious ultra-long term treatment of panic disorder with clonazepam and paroxetine
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**Abstract**
**Objective:** To describe the clinical and therapeutic features of 120 panic disorder (PD) patients treated for 3 years with clonazepam, paroxetine, or clonazepam + paroxetine and their follow-up for 6 years after the treatment.

**Method:** A prospective open study with 120 PD patients randomized to 2 mg/day clonazepam or 40 mg/day paroxetine. Poor responders were switched after 8 weeks to combined treatment with ~2 mg/day clonazepam + ~40 mg/day paroxetine. Tapered withdrawal of the treatment was performed after 3 years. Efficacy, safety, and cumulative relapse and remission were studied over the following 6 years.

**Results:** 94 patients completed 3 years treatment. All were free of panic attacks since at least one year before undergoing tapered drug withdrawal. In annually studied patients the relapse rates were similar after the 3 treatments with a marginal advantage of clonazepam over the combination and paroxetine at the first year after drug withdrawal. Cumulative relapses rate were 41%, 77%, and 94% at years 1, 4, and 6. 90% of the annually followed patients were during the 6 years of follow up in average in remission (partial: 54%, full: 36%); 73% were PA-free, 91% had a CGI-S score of 1, and 39% HAMA scores of 5–10; 33% needed drug treatment in each follow-up year. Both treatments displayed similarly high efficacy, but clonazepam was better tolerated. Results in patients studied at the end of follow-up only were similar, but somewhat less favorable: 88% were in remission, 72% were PA-free, 62% had a CGI-S score of 1 and 30% a HAMA of 5–10, with 39% needing PD treatment.

**Conclusion:** PD is a chronic disorder, with many patients relapsing despite being asymptomatic at least one year after 3 years treatment. Paroxetine and clonazepam were associated with similar long-term prognoses but clonazepam was better tolerated.

**PS248**
The Interaction Effects between Panic-Related Genes Polymorphisms and Panic Disorder on Cortical Thickness of Paralimbic Regions: A Preliminary Study
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**Abstract**
**Background:** Panic disorder (PD) has consistently showed high heritability. Polymorphisms of serotonin transporter linked promotor region (5-HTTLPR), 5-Hydroxytryptamine Receptor 1A (HTR1A), catechol-O-methyltransferase (COMT), and brain-derived neurotrophic factor (BDNF), Regulators of G-protein signaling 2 (RGS2) have been suggested to be associated with panic disorder. In addition, no imaging studies have examined the difference of cortical thickness between PD and Healthy control, and the interaction effects panic-related genes polymorphisms and the presence of panic disorder on cortical thickness of paralimbic regions such as temporal pole and insula.