ICOCS 6th Annual Scientific Meeting

Joint with the ECNP-NI 1st OCRN meeting

Thursday 18th October 2012

Department of Psychiatry and Psychotherapy,
Medical University of Vienna,
Vienna, Austria

Poster Abstract Book
Social Phobia in Obsessive-Compulsive Disorder: Prevalence and Correlates

Assunção, M.C.¹, Costa, D.C.², Mathis, M.A.², Shavitt, R.G.², Ferrão, Y.A.³, Rosário, M.C.⁴; Miguel E.C.², Torres A.R.¹.

¹Department of Neurology, Psychology and Psychiatry, Botucatu Medical School, São Paulo State University (UNESP); ²Department and Institute of Psychiatry, São Paulo University Medical School; ³Federal University of Health Sciences, Porto Alegre (RS); ⁴Department of Psychiatry, Federal University of São Paulo.

Background: Social Phobia (SP) is an anxiety disorder that frequently co-occurs with obsessive-compulsive disorder (OCD); however, studies that evaluate clinical factors associated with this specific comorbidity are rare. The aim was to estimate the prevalence of SP in a large multicenter sample of OCD patients and compare the characteristics of individuals with and without SP.

Method: A cross-sectional study with 1001 patients of the Brazilian Research Consortium on Obsessive-Compulsive Spectrum Disorders using several assessment instruments, including the Dimensional Yale-Brown Obsessive-Compulsive Scale and the Structured Clinical Interview for DSM-IV Axis I Disorders. Univariate analyses were followed by logistic regression.

Results: Lifetime prevalence of SP was 34.6% (N = 346). The following variables remained associated with SP comorbidity after logistic regression: male sex, lower socioeconomic status, body dysmorphic disorder, specific phobia, dysthymia, generalized anxiety disorder, agoraphobia, Tourette syndrome and binge eating disorder.

Limitations: The cross-sectional design does not permit the inference of causal relationships; some retrospective information may have been subject to recall bias; all patients were being treated in tertiary services, therefore generalization of the results to other samples of OCD sufferers should be cautious. Despite the large sample size, some hypotheses may not have been confirmed due to the small number of cases with these characteristics (type 2 error).

Conclusion: SP is frequent among OCD patients and co-occurs with other disorders that have common phenomenological features. These findings have important implications for clinical practice, indicating the need for broader treatment approaches for individuals with this profile.
Background: The aim of this study was to investigate the therapeutic efficacy of repetitive transcranial magnetic stimulation (rTMS) of the supplementary motor area (SMA) in treatment-refractory OCD.

Methods: We recruited 11 refractory-OCD patients (6 males and 5 females, mean age 33.36±11.96), with a Y-BOCS score >16 (enrollment is still in progress). All of these patients underwent a simultaneous, bilateral and low frequency (1Hz) SMA-rTMS as an add-on treatment. Refractoriness (indicated by the lack of a significant Y-BOCS score reduction, <35%), was defined as no/insufficient response following at least two trials with SSRI and one with clomipramine. There was no change of drug therapy for any patient during the study. Patients underwent 15 rTMS sessions (1 per day, 5 per week for 3 weeks). We used Magstim Rapid Stimulator generating biphasic pulses (Magstim Company, Ltd., Whitland, U.K.) with a focal 70-mm, 8-shaped coil. OCD, mood and anxiety symptoms, were rated at baseline, at the 2nd and at the 3rd week, according to Y-BOCS, HAM-A and HAM-D. We assessed rTMS-treatment effects with a two-way analysis of variance (ANOVA), considering time as independent factor and rating scale scores as dependent variables.

Results: After 2 weeks of stimulation 4/11 patients (36.4%) resulted responders (>25% Y-BOCS score reduction) and 1/11 remitter (YBOCS score <18). At the end of the 3rd week, 7/11 patients (63.6%) and 3/11 (27.3%) were respectively responders and remitters.

Conclusion: Bilateral, simultaneous and low frequency SMA-rTMS showed to produce a significant improvement in refractory OCD patients, after 3 weeks of stimulation. Further research is needed to establish any differences using a longer period of stimulation, a major sample of patients and a sham-stimulated control group.
Olfactory identification deficit and its association to response inhibition in obsessive-compulsive disorder: on the scent of the orbitofronto-striatal model.

G. Bersani, A. Gallo, A. Quartini, F. Ratti, F.S. Bersani, G. Pagliuca

Department of Medico-Surgical Sciences and Biotechnologies
Faculty of Pharmacy and Medicine - “Sapienza” University of Rome

1 DSM ASL/LT-Unity of Psychiatry
2 Unit of Otorhinolaryngology
“A. Fiorini” Hospital-Terracina (ITALY)

Background. Normal olfactory identification (OI) ability is contingent upon the normal functioning of the orbitofrontal cortex (OFC). Tests of smell identification are a well-recognised means of indirectly assessing the integrity of the OFC. The fronto-striatal circuitry involving the OFC has been implicated in the neuropathology of Obsessive Compulsive Disorder (OCD). However, until today, few studies have assessed the olfactory function in OCD and of those studies published, the results are mixed.

Aims. To investigate the olfactory and cognitive functions in patients with OCD compared to healthy control subjects and to relate olfactory function to neuropsychological performance.

Methods. The Brief Smell Identification Test (B-SIT) and tests from the Cambridge Neuropsychological Automated Battery (CANTAB) were administered to 30 patients with OCD and to 22 healthy matched controls. We controlled for age, gender, smoking status and IQ. In OCD patients we also controlled for symptom severity.

Results. A significant impairment in OI ability as well as widely distributed cognitive deficits in visual memory, executive functions, attention, and response inhibition were found in OCD patients relative to controls. Among all the CANTAB tests, and only for the OCD patients, the degree of behavioural impairment on the response inhibition Stop Signal Task [slower Stop Signal Reaction Time (SSTR)] strongly correlated with B-SIT score.

Conclusions. In line with the fronto-striatal dysfunction model of OCD, we confirmed, in a larger number of subjects, our previous observation of a common pathologic process underlying OI and response inhibition impairments in patients with OCD. A slower SSRT has been associated to impulsive behaviours. This is the first study to report OIDs as a predictor of impulsivity in this clinical population. Further exploration of the potential diagnostic utility of OIDs in the assessment of OCD would be useful. Such measures may help delineate the clinical complexity of OCD and support more targeted investigations and interventions.
Can early improvement be an indicator of treatment response at twelve weeks in obsessive-compulsive disorder? Implications for early-treatment decision-making.

Daniel Lucas Conceição Costa¹*, Roseli Gedanke Shavitt¹, Raony Cassab², Marinês Alves Joaquim¹, Sonia Regina Borcato¹, Carolina Valério¹, Eurípedes Constantino Miguel¹, Juliana Belo Diniz¹

¹Projeto Transtornos do Espectro Obsessivo-Compulsivo (PROTOC, Obsessive-Compulsive Spectrum Disorders Project), Department and Institute of Psychiatry, Universidade de São Paulo (USP), School of Medicine, São Paulo, Brazil
²Department of Statistics, Institute of Mathematics and Statistics, Universidade de São Paulo, São Paulo, Brazil

Background: Non-response to SRIs represents a challenge in OCD treatment. Usually, at least 12-weeks are necessary to determine that a patient was not responsive to a SRI. However, early predictors of non-response may be useful to determine if additional interventions can be implemented in the short term. We aimed to investigate if early improvement (at 4-weeks) is a predictor of OCD outcome after 12-weeks.

Methods: We performed a post-hoc analysis of the results of an SRI trial conducted with 145 OCD patients admitted to an outpatient clinic. Inclusion criteria: age between 18-65 years, DSM-IV primary diagnosis of OCD, minimum baseline Y-BOCS score of 16 and absence of previous adequate pharmacological treatment for OCD. Systematic assessments on OCD severity were taken at baseline, weeks 4 and 12. Treatment response at 12 weeks was defined as 35% or greater decrease in baseline Y-BOCS score. Stepwise logistic regression was used to test the relationship between early improvement (at 4-weeks) and treatment response (at 12-weeks) taking into account socio-demographic and clinical characteristics. Different thresholds of early improvement were tested and the sensitivity and specificity of each cut-off point were calculated.

Results: Mean Y-BOCS total scores (standard deviation) at baseline, weeks 4 and 12 were, respectively: 26.2 (5.6), 22.9 (7.0) and 19.9 (8.3). Early improvement defined as a 20% reduction from baseline Y-BOCS scores was able to predict 12-weeks response with 78.4% of sensitivity and 60.5% of specificity. According to the logistic regression model, only early improvement remained associated with response to treatment after 12 weeks (Odds Ratio= 1.14, p<0.0001). Only 17 out of 97 patients who have not improved at 4-weeks were responders at 12-weeks (Pearson Chi-Square= 20.6, p<0.001).

Conclusions: Early improvement predicted 12-week outcome of OCD with good sensitivity and specificity. Its role in early decision making should be investigated in future studies.
Substance use in obsessive-compulsive disorder: what does it mean?

Cuzen N.L., Lochner C., Zohar J., Stein D.J., Fineberg N.A.

Background: Individuals with obsessive-compulsive disorder (OCD) may be generally less inclined than those unaffected with the disorder to engage in risky or impulsive behaviours, such as substance use. Cohort studies have generally shown no elevation of substance use disorder (SUD) rates in treatment-seeking OCD patients. Interestingly, some but not all epidemiological studies have shown elevated rates of SUDs among OCD patients compared with controls. We aimed to investigate the prevalence and possible impact of SUDs within a large cohort of individuals with OCD.

Methods: Survey data were derived from the ICOCS database, a large-scale, multi-centre (10 centres across Europe, Canada, Africa, the Americas, and the Middle East) database of treatment-seeking individuals with current OCD (n = 445). Measures relevant to the current investigation include the Mini International Neuropsychiatric Inventory, the Yale-Brown Obsessive Compulsive Scale, as well as a demographics questionnaire.

Results: Rates for alcohol abuse (n = 12; 2.7%), alcohol dependence (n = 7; 1.6%), as well as other drug abuse (n = 1; 0.2%) and dependence (n = 2; 0.4%) were low. Graphical inspection of the data did not reveal any obvious differences in SUD prevalence by geographical location. Owing to such low numbers, the ability to detect possible significance in SUD-related group differences was limited. Nevertheless, those with OCD and comorbid SUD had numerically more severe OCD symptoms (YBOCS total score: $M = 24.53$, $SD = 4.21$) compared to those without comorbid SUD ($M = 22.44$, $SD = 7.23$; n.s.). In addition, the former group also reported higher incidence of past depressive episodes (56%) than the latter group (39%). Incidence of past depressive episodes was not associated with differences in OCD severity, and no other associations could be observed.

Discussion: These data indicate that SUDs are infrequent among individuals with OCD, representing a rate reduced by approximately 50% of that for the normal population. Avoidance of substance use in OCD appears to be unaffected by cultural and geographical divides. SUD comorbidity may possibly be associated with greater OCD severity, as well as a history of more depressive episodes. In summary, reduced SUD rate in this cohort supports long-standing observations of elevated and generalized harm avoidance tendencies among individuals with OCD, which requires further exploration in OCD with and without SUD comorbidity.

Natalie Cuzen is partly supported through the provisions of the EUFP7 Marie Curie International Research Exchange Scheme (PIRSES) Joint European-South African Research Network in Anxiety Disorders (‘EUSARNAD’) programme
Cognitive behavioural therapy for paediatric OCD: when do we need medication and when more sessions?

de Haan E., Wolters L.

AMC, Department of Child and Adolescent Psychiatry, De Bascule P.O. Box 303 1115 ZG Duivendrecht, The Netherlands, e.dehaan@amc.uva.nl

Introduction: Cognitive behavioural therapy (CBT) is the evidence based treatment for paediatric OCD (Geller et al., 2012), with a mean symptom reduction of 40-65%. However there are large individual differences in effectiveness. This could imply that some patients need a different treatment policy (e.g., medication or more sessions CBT). The AACAP guidelines (2012) recommend CBT and medication for patients with severe symptoms (CY-BOCS > 23). However this recommendation is not based on research findings. Furthermore, there are no studies into the optimal number of sessions. In this randomized controlled study we examined moderators of treatment effect, predictors for adding medication, and the effect of continuing CBT after the protocol.

Method: Children and adolescents (8–18 years) with OCD, were at random allocated to CBT (16 sessions) or waitlist (8 weeks) followed by CBT. Assessments were at the start of waitlist (T0), at post-waitlist/start CBT (T1), after 8 sessions CBT (T2), after 16 sessions CBT (T3), 16 weeks follow-up (T4), and 1 year follow-up (T5). Primary outcome measure was The Children’s Yale-Brown Obsessive Compulsive Scale.

Results: 48 patients (81%) completed treatment. Results showed a significant effect for CBT compared to waitlist. Comorbidity (anxiety, depression, problem behaviour) significantly decreased during CBT. All results were sustained until 1 year follow-up. After CBT, 44% of the sample was in remission (CY-BOCS ≤ 10). However, 24% still had complaints at a clinical level. In 52% CBT was continued (6 children also received medication) leading to significant improvement. Severity of symptoms was no moderator for effectiveness, and the positive predictive value for adding medication was low (0.29).

Conclusion: CBT is effective in paediatric OCD, but 52% need more than 16 sessions. Patients with serious symptoms do not all need medication to improve.

de Vries F.E. 1, de Wit S.J. 1, Cath D.C. 3, van der Werf Y.D. 2, van der Borden V. 1, van Rossum T. 1, van Balkom A.J.L.M 1, van der Wee N.J.A. 4, Veltman D.J. 1, van den Heuvel O.A. 1,2

1 Department of Psychiatry, VU University medical Center, Amsterdam
2 Department of Anatomy and Neuroscience, VU University medical Center, Amsterdam
3 Academic Anxiety center, Altrecht, Utrecht
4 Department of Psychiatry and Leiden Institute for Brain and Cognition, Leiden University Medical Center, Leiden

Context: Subtle cognitive deficits exist in patients with obsessive-compulsive disorder (OCD) as well as in unaffected relatives, supporting the putative involvement of frontal and parietal areas in the disorder. We hypothesized a dysfunctional frontal-parietal working memory circuit in both patients and unaffected relatives, constituting a potential endophenotype for OCD.

Methods: Forty-three medication-free OCD patients, 17 unaffected siblings and 37 healthy controls matched on age, gender and IQ underwent functional magnetic resonance imaging while performing a visuo-spatial working memory (n-back) task, with a baseline condition and three load levels of increasing difficulty (1-back, 2-back, 3-back). We compared task (all loads vs. baseline) and load-related activity patterns between groups using a region-of-interest approach including prefrontal (bilateral dorsolateral prefrontal cortex, pre-supplementary motor area, cingulum) and parietal regions (bilateral precuneus and inferior parietal cortex). Results are reported at p<0.05, Family Wise Error corrected.

Results: At 3-back a performance deficit was present in OCD patients, compared with controls, but not in siblings. Increased task-related activation in left dorsal prefrontal areas and left precuneus was found in patients and in an extended network in siblings (bilateral dorsal prefrontal, parietal and cingulate cortices), compared to controls. However, from 2-back to 3-back OCD patients showed relative deactivation in the task-related network in contrast to controls. OCD patients with high performance showed relatively more hyperactivation than patients with low performance. No correlation between OCD symptom severity and brain activity was found. Performance at 3-back correlated with activity in right pre-supplementary motor area.

Conclusions: Altered activity patterns of the frontal-parietal circuitry of both OCD patients and unaffected siblings during the n-back task may constitute an endophenotype for OCD. We suggest that increased activation in siblings and the high performing OCD patients is compensatory and preserves performance, whereas other OCD patients fail to adequately compensate, resulting in a performance deficit.
Pre-supplementary motor area hyperactivity during response inhibition: a candidate endophenotype of obsessive-compulsive disorder

de Wit, S.1,2, de Vries F.E.1,2, van der Werf Y.D.1,3,4, Cath D.C.5,6, Heslenfeld D.J.7, Veltman E.M.1,2, van Balkom A.J.L.M.2, Veltman D.J.1,2, van den Heuvel O.A.1,2,3

1. Neuroscience Campus Amsterdam (NCA)
2. Department of Psychiatry, VU University Medical Center, Amsterdam
3. Department of Anatomy and Neuroscience, VU University Medical Center, Amsterdam
4. Sleep and Cognition, Netherlands Institute for Neuroscience, an Institute of the Netherlands Academy of Sciences, Amsterdam
5. Academic Anxiety Center, Altrecht, Utrecht
6. Division of clinical and health psychology, Utrecht University, Utrecht
7. Department of Psychology, VU University, Amsterdam

Background: Endophenotype studies of obsessive-compulsive disorder (OCD) may discover heritable traits related to the genetic susceptibility to OCD. The behavioural deficit in response inhibition is a promising endophenotype of OCD, its functional neural correlates, however, have not been studied. The aim of this study was to assess the functional neural correlates of response inhibition in a large sample of medication-free OCD patients and their unaffected siblings.

Methods: Forty-one medication-free patients with OCD, 17 unaffected siblings, and 37 age- and gender-matched healthy controls performed a stop-signal task during 3-Tesla functional magnetic resonance imaging. The stop-signal reaction time (SSRT), a behavioural measure of response inhibition, was calculated per subject. The neural correlates of response inhibition were assessed in a region-of-interest analysis including the pre-supplementary motor area (pre-SMA), inferior frontal gyrus (IFG), inferior parietal cortex (IPC) and sub-thalamic nucleus.

Results: Patients and siblings had increased SSRT compared with controls, although siblings at trend-level only. Both patients with OCD and siblings, compared with controls, showed increased activity of left pre-SMA during successful inhibition. Patients, compared with both controls and siblings, had decreased activity of right IPC and IFG during inhibition. In patients, activity of left pre-SMA correlated negatively with SSRT and right pre-SMA activity correlated negatively with disease severity.

Conclusions: Patients with OCD have a state-dependent deficit in the recruitment of right IPC and IFG during inhibition. Compensatory pre-SMA hyperactivity, possibly related to inefficiency of pre-SMA itself or to parietal dysfunction, is a candidate endophenotype of OCD.
Emotion regulation in obsessive-compulsive disorder: a functional MRI study before and after transcranial magnetic stimulation

de Wit, S.J.¹, van der Werf Y.D.², Mataix-Cols D.³, van Balkom A.J.L.M.¹, Veltman D.J.¹, van den Heuvel O.A.¹,²

1. Department of Psychiatry, VU University Medical Center, Amsterdam, the Netherlands
2. Department of Anatomy and Neurosciences, VU University Medical Center, Amsterdam, the Netherlands
3. Institute of Psychiatry, Kings College London, London, United Kingdom

Background: Increased emotional reactivity in obsessive-compulsive disorder (OCD) may be due to a deficit in emotion regulation, caused by a failure of cognitive control exerted by dorsolateral prefrontal cortex (dlPFC). We hypothesized that 1) during emotion regulation, patients with OCD would show deficient recruitment of the dlPFC and that 2) stimulating high-frequency and inhibiting low-frequency repetitive transcranial magnetic stimulation (rTMS) on the dlPFC would improve cognitive control in patients, and diminish it in healthy controls, respectively.

Methods: Forty-three medication-free OCD patients and 38 matched controls performed an emotion regulation task with general fear and OCD-related stimuli during 3-Tesla functional MRI. Pictures were processed in either an ‘attend’ (passive viewing) or ‘regulate’ (apply cognitive reappraisal techniques to diminish negative affect) condition. Subjects rated each picture on a distress scale. Subjects were scanned twice: at baseline, and after real or placebo rTMS. We assessed effects of disease-status and rTMS on distress ratings and on brain activity during emotion regulation.

Results: Patients and controls both showed distress reduction in the regulate vs. attend-condition at baseline. During fear regulation, controls recruited the left dlPFC (BA9/46) and bilateral parietal cortex (BA40/7) significantly more than patients. Emotion regulation in patients was characterized by recruitment of dorsomedial PFC, which was significantly more active during OCD-related regulation in patients versus controls.

Controls in the placebo-condition (p=.02) and patients in the stimulating-rTMS condition (p=.10) showed reduced fear distress scores at day 2 vs. day 1, while scores of controls in the inhibiting-rTMS condition and patients in the placebo-condition did not change. The change in distress ratings over sessions correlated with changes of activation in brain regions involved in emotion processing and regulation.

Conclusions: In line with our ‘emotion-dysregulation’-hypothesis, patients with OCD showed deficient recruitment of the dlPFC during emotion regulation. rTMS on dlPFC may affect implicit fear regulation.
Shifting and stopping of prospective memory (PM) responses in obsessive-compulsive disorder (OCD)

Gyula D.¹, Csigó K.², Harsányi A.², Németh A.², Racsmány M.¹

¹BME, Department of Cognitive Science, Budapest, Hungary gdemeter@cogsci.bme.hu
²Department of Psychiatry, Gyula Nyírő Hospital, Budapest, Hungary

Here we present two experiments aimed to investigate prospective and inhibitory memory functions in OCD. In the first experiment we adapted an experimental paradigm developed by Burgess et al. (2001), who demonstrated that different cortical areas are implicated in the maintenance and in the realization of an intention. According to our results the OCD group performed significantly slower on this task than a matched healthy control group. A further aim of our study was to find different performance patterns related to two subgroups of OCD patients subdivided by their scores on the Yale-Brown Obsessive Compulsive Scale (Y-BOCS). The so-called compulsive subgroup performed significantly slower on the expectation condition relative to the baseline condition, while the obsessive subgroup produced impaired performance on the execution of the prospective task.

In the second experiment we applied a modified dual-task paradigm which required the altered execution and inhibition of responses to the same secondary task cues. We found that OCD patients made significantly more false alarm type errors and there was a significant positive correlation between the number of false alarms and the PM subscale scores of the Prospective Retrospective Memory Questionnaire (PRMQ). These results suggest that OCD patients experience difficulties during event-based PM task and that these difficulties may originate from over-monitoring stimuli for possible PM cues and the disinhibition of activated out-of-date responses.

Keywords: executive functions, shifting, inhibition, prospective memory, obsessive-compulsive disorder
Lifetime comorbidity of obsessive-compulsive disorder and sub-threshold obsessive-compulsive symptomatology in the community: impact, prevalence, socio-demographic and clinical characteristics

Fineberg NA, Hengartner MP, Bergbaum C, Gale TM, Jefferies K, Rössler W & Angst J

Background: A substantial body of data from clinical and epidemiological studies show that Obsessive Compulsive Disorder (OCD) is associated with significant psychiatric comorbidity. For example, in the National Comorbidity Survey replication (NCS-R) of U.S. adults with OCD, OCD was associated with substantial comorbidity, not only with anxiety (75.8%) and mood disorders (63.3%), but also with impulse-control (55.9%) and substance use disorders (38.6%). In the case of OCD, comorbid depression may be particularly associated with reduced quality of life. Rates of major depressive disorder (MDD) ranging from 40 to 80% have been reported. This study focused on the prevalence and clinical impact of comorbidity on OCS/OCD. Individuals with OCD with and without comorbid disorders are compared in order to determine differences in socio-demographic factors, clinical characteristics, levels of distress, functional impairment, suicidality and treatment.

Methods: Over a 30-year period, a stratified sample of the general population of Zurich, consisting of 591 subjects (292 males; 299 females), with an over-representation of risk cases (high scorers on the SCL-90-R; 85th percentile or above on the Global Severity Index [GSI]), participated in a series of seven interviews over a thirty-year period. Participants were interviewed in their homes by professional psychologists or psychiatrists with extensive experience in psychopathological diagnosis and treatment, using the SPIKE, a face-to-face interview based upon DSM-criteria that covered the past twelve months.

Results: 30 subjects (11 male), were diagnosed with OCD according to the SPIKE, on at least one occasion. The most frequent comorbid lifetime disorder of OCD was GAD. The most and least prevalent of the nine comorbid disorders in subjects with OCS was alcohol misuse (N=28; 32.2%) and panic disorder (N=9; 10.3%). The most and least prevalent of the nine comorbid disorders in subjects with OC symptoms was alcohol misuse (N= 23; 31.1%) and agoraphobia (N=7; 9.5%).

Discussion: In this sample, lifetime rates of psychiatric comorbidity were high and increased in prevalence across the OC severity spectrum. The spectrum of bipolar affective disorder was significantly associated with OCD whereas unipolar major depression and both alcohol and drug misuse disorders were not. Most forms of comorbidity increased distress and impacted negatively on family and work relationships, though disorder-specific effects were observed. Thus, bipolar disorder, agoraphobia and GAD were associated with increased OCD-severity; bipolar disorder was associated with increased suicidal acts and panic disorder increased treatment-seeking behaviour.
Post-mortem brain transcriptional alterations of the HTR2A: correlation with developmental stages and genotypes

Grünblatt E¹,², Marinova Z¹, Monoranu CM³, Walitza S¹,²

¹ Child and Adolescent Psychiatry, University of Zurich, Neumünsterallee 9, 8032 Zürich, Switzerland
² Neuroscience Center Zurich, University of Zurich and ETH Zurich, Switzerland
³ Department of Neuropathology, Institute of Pathology, University of Würzburg, Würzburg, Germany

Several studies demonstrated that a single nucleotide polymorphism (SNP), –1438G/A (rs6311), found in the transcriptional control region of the gene that encodes the serotonin-receptor 2A (HTR2A) is associated with obsessive-compulsive disorder (OCD) in particular with the early onset form, starting by age 10. A meta-analysis of our results as well as many other published results point to its association with early-onset OCD. Several studies investigated the effects of the HTR2A imprinting on expression, but up to now there are conflicting results. Still several epigenetic studies suggested that the rs6311 SNP affects methylation status of the promoter region and therefore affects the transcription of HTR2A. Here we investigated in post-mortem brain tissue (in several different brain regions) the transcriptions of HTR2A and correlated it to the developmental stage of the brain (41-weeks foetus in uterus to 85 years old age controls), as well as to the genotype of each of the subjects. The knowledge arising from this study will enable to understand the functional effect of this polymorphism on brain development and expression of the excitatory receptor HTR2A in different brain regions.
Impairments in executive functioning have been identified as an underlying cause of obsessive-compulsive disorder (OCD). Obsessive patients attempt to suppress certain unwanted thoughts through a mechanism that Wegner referred to as ‘chronic thought suppression’, whereas compulsive patients are unable to inhibit their rituals. We tested 51 OCD patients using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), the White Bear Suppression Inventory (WBSI) and the Dysexecutive Questionnaire (DEX). Executive functions were tested using a cognitive test battery. We found that the total WBSI score was correlated with the Y-BOCS obsessive score but not with the Y-BOCS compulsive score. A stronger correlation was observed between the Y-BOCS obsessive score and the ‘unwanted intrusive thoughts’ factor based on Blumberg’s 3-factor model of the WBSI. The total WBSI score was not correlated with the cognitive test results. The DEX score was significantly correlated with the Y-BOCS compulsive score; however, no correlation was found between the DEX score and the Y-BOCS obsessive score. A stronger correlation was observed between the Y-BOCS compulsive score and the ‘inhibition’ component of the DEX score, as defined by Burgess’s 5-factor model. The DEX scores were correlated with cognitive test results measuring attention, cognitive flexibility and inhibitory processes. We conclude that obsessions indicate a failure of cognitive inhibition but do not involve significant impairment of executive functions, whereas compulsions indicate ineffective behavior inhibition and impaired executive functions.
The Prevalence of Metabolic Syndrome in Patients with OCD

Karamustafaloğlu O., Yavuz B.G, Özçelik B., Bakım B., Cengiz Y.C., Yumrukçal H., Türkyılmaz E.

Şişli Etfal Teaching and Research Hospital Istanbul Turkey

Objective: This study aimed to examine the prevalence of metabolic syndrome (MetS) in patients with obsessive-compulsive disorder (OCD).

Method: This cross-sectional analysis was performed on 58 outpatients with OCD treated in Şişli Etfal Teaching and Research Hospital Psychiatry Department Istanbul Turkey between June 2009 and December 2009. Study population comprised 44 female (75.9%) and 14 male (24.1%) subjects with a mean age of 36.16±11.61 years. Psychiatric diagnoses were evaluated using Structured Clinical Interview for DSM- IV (SCID-I). Subjects having three or more of the NCEP Adult Treatment Protocol III criteria were defined as having MetS.

Results: Of the overall population, 11 (19%) had MetS. There was no significant difference between the genders in terms of meeting the criteria for MetS (for females 7/44, 15.9% and for males 4/14, 28.6%; p=0.29). The patients with MetS was significantly older than the patients without MetS (46.82±8.41 years vs. 33.66±10.86 years, p<0.001). The components of MetS did not differ significantly between patients using and not using antipsychotics except HDL cholesterol which was significantly lower in patients treated with antipsychotics (48.74±10.88 mg/dL vs. 56.90±13.34 mg/dL, p=0.02).

Conclusion: Despite the antipsychotic augmentation, the prevalence of MetS (19%) was relatively low among patients with OCD.
Association study between BDNF gene variants and OCD Mexican patients.

Márquez L¹, Camarena B², Hernández S², Lópezaga C¹, Vargas L¹, Vargas I², Nicolini H³.

¹Clinic of Obsessive-Compulsive Disorder and Spectrum Disorders, National Institute of Psychiatry Ramón de la Fuente Muñiz, Mexico, DF, Mexico; ²Department of Psychiatric Genetics, National Institute of Psychiatry Ramón de la Fuente Muñiz, Mexico, DF, Mexico; ³Autonomous University of Mexico City, Mexico, DF, Mexico.

Introduction: Association between Brain-Derived Neurotrophic Factor (BDNF) gene and Obsessive Compulsive Disorder (OCD) was reported in a family-based association study. In this study, we investigate the role of BDNF polymorphic variants (rs6265, rs1519480 and rs7124442) in OCD Mexican patients using a case-control and family-based association design.

Material and Methods: Our sample consisted of 190 OCD patients, 283 control subjects and 109 OCD families. OCD patients fulfilled DSMIV-TR diagnostic criteria and were captured from Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz and Grupo Médico Carracci. DNA analysis of rs6265, rs1519480 and rs7124442 was performed using TaqMan allelic discrimination assays. Single SNP and haplotype analyses were conducted to determine association between BDNF variants and OCD.

Results: Case-control analysis showed a significant association between rs6265 and OCD. We observed a high frequency of Val/Val genotype and Val allele in OCD patients compared with controls (χ²=21.8, p=0.0001; χ²=22.7, p=0.0001, respectively). Also, rs1519480 analysis showed a high frequency of G allele in OCD patients compared with control group (χ²=27.8, p=0.0001). Haplotype analysis showed a high frequency of A-A-T in OCD compared with control group showing a 2.1-fold increased risk of OCD (p=0.014). Clinical characteristics did not show significant differences in SNP and haplotype-based analysis. Finally, the family-based association study did not show linkage disequilibrium.

Conclusions: We replicated the association between Val allele of rs6265 BDNF gene polymorphism and OCD. We found significant association of rs1519480 in OCD patients compared with a control group. Finally, we observed a high risk haplotype (A-A-T) in OCD patients and a protective A-G-T haplotype for OCD. Interestingly, the risk to develop OCD could be dependent of being a carrier of A variant of rs1519480, region that has never been analyzed in OCD. Therefore, our findings suggest that BDNF gene could be related to the development of OCD.
Higher glutamate in the associative striatum of pandas related obsessive compulsive disorder patients: A $^1$H-MRS study

Nicolini H$^{1,2,3}$, Alvarado-Alanis P$^4$, Genis-Mendoza AD$^{1,2}$, López Y$^5$, Basualdo A$^1$, Manrique V$^5$, Niubo E$^5$, Hernández L$^6$, Lopez-Canovas L$^5$, Riverón A$^1$, Lópe-Casamichana M$^1$, Flores J$^3$, Lanzagorta N$^2$, Santana D$^2$, Bobes MA$^5$, De la Fuente-Sandoval C$^{4,7}$.

1) Universidad Autónoma de la Ciudad de México (UACM), Mexico City, Mexico.
2) Grupo Médico Carracci, Mexico City, Mexico.
3) Servicios de Atención Psiquiátrica (SAP), Secretaria de Salud, Mexico City, Mexico.
4) Laboratorio de Psiquiatría Experimental, Instituto Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Mexico City, Mexico.
5) Centro de Neurociencias de Cuba, Havana, Cuba.
6) Clínica Del Adolescente, Havana, Cuba.
7) Departamento de Neuropsiquiatría, Instituto Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Mexico City, Mexico.

Introduction: Neuroimaging studies have provided evidence of cortico-striatal circuitry dysfunctions in obsessive–compulsive disorder (OCD). Although previous studies using proton magnetic resonance spectroscopy ($^1$H-MRS) have shown glutamatergic alterations in these patients, to date no study has been performed in Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections (PANDAS) patients that presents OCD symptoms.

Methods: The aim of this study was to compare, using proton magnetic resonance spectroscopy ($^1$H-MRS), glutamate levels in the precommissural dorsal-caudate (or associative striatum) in 17 PANDAS-OCD patients and 17 age-gender matched controls. All subjects underwent a $^1$H-MRS study using a 3Tesla scanner (PRESS, TE=35ms, TR=2000ms, voxels=8ml). Glutamate levels were estimated with LCmodel software and corrected for cerebrospinal fluid proportion in the voxel.

Results: Patients showed higher levels of glutamate ($T=4.51$, $p=<0.001$), and glutamate + glutamine ($T=2.52$, $p=0.017$) in the associative-striatum compared to healthy controls.

Conclusions: The results suggest that a high glutamate level is present in a brain region previously implicated in the pathophysiology of OCD.
Executive function performance in subjects with PANDAs

Nicolini H¹,²,³, Flores J¹, Lanzagorta N³, Genis-Mendoza A.D¹,², De la Fuente-Sandoval C⁴, Santana D³.

1) Servicios de Atención Psiquiátrica (SAP), Secretaría de Salud, Mexico City, Mexico.
2) Universidad Autónoma de la Ciudad de México (UACM), Mexico City, Mexico.
3) Grupo Médico Carracci, Mexico City, Mexico.
4) Departamento de Neuropsiquiatría, Instituto Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Mexico City, Mexico.

Background: OCD-PANDAS is an immune condition that produces neural alterations predominantly in fronto-subcortical networks, inducing early onset OCD (as well as Tics and Tourette). Early onset OCD has been recognized as a different clinical condition (often more severe) than late onset OCD. Cognitive and neuropsychological characteristics in PANDAS are insufficiently described in literature, particularly for executive functions (oriented to characterize frontal-subcortical dysfunction). The goal of this study was to assess the neuropsychological performance of a group of PANDAS.

Methods: We evaluated 22 patients with early onset-OCD whom have been identified (confirmed by immunology tests) as possible PANDAS. Age subject range was 10 to 43 years old, all adolescents were attending school, adults ranged from 10 to 18 school-years. An Executive function battery (including WCST-64 modified version, Iowa-type test, Hanoi Tower, verbal and visual working memory, verbal fluency, Stroop effect) has been applied. Neuropsychological performance in patients was compared to a control group paired by age, sex, and school-years.

Results: As a group PANDAS-subjects presented a (statistically significant) deficiently performance: 1) at the Iowa-type test (with problems to avoid high risk choices), 2) lower scores in both working memory modalities verbal and/or visual, 3) Higher number of errors in attention control (non-stroop type errors), and 4) Problems in classifying categories (total number of errors at WCST-64 modified version) and slowness in test performance (cognitive efficiency). Frequency of neuropsychological alterations in total sample were: 61% in risk-detection, 57% in working memory (verbal and or visual), 47% in mental inflexibility, 42% at risk-benefit processing, 36% in verbal fluency and 36 % in visual-spatial planning.

Conclusions: These findings mainly suggest that OCD-PANDAS have deficits in frontal-orbital, as well as prefrontal-dorsolateral regions of the brain.
Introduction: Streptococcal infection can lead to an autoimmune disease characterized by a spectrum of psychiatric disorders called PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders). It has been suggested the involvement of the serotonergic system in the pathophysiology of obsessive-compulsive disorder (OCD), supported by the therapeutic efficacy of selective serotonin reuptake inhibitors (SSRI). Similarly, it is known that serotonin is involved in immunological processes as reported in atopic dermatitis, and the influence of serotonin concentration may modulate 5-HT1A autoreceptors due to psychological stress. Those individuals, carriers of a particular genotype of 5-HTT, could be related to the amount of antibody titers associated with PANDAS.

Objective: This study assessed the association between 5-HTT genotypes and antibody titers (anti-streptococcal (AS), anti-neural from brain lysate glycoproteins (AN), and anti-enolase (AE)) associated with the PANDAS phenotype in patients from Mexico City and Cuba.

Methods: The study has been approved by an independent ethics committee; all enrolled patients provided a written informed consent. OCD-PANDAS was diagnosed in 50 patients from Mexico and Cuba, according to current clinimetric standards. It was determined the presence of 3 antibodies AS, AN, and AE by ELISA. Besides, DNA from peripheral blood was extracted for 5-HTT genotyping.

Results: The sample was divided into three genotypes (LL, SL and SS) and compared to titers of the three antibodies. Statistically significant differences were observed between the titers of AN with SL and SS genotypes (p = 0.045) and also between LL and SS genotypes (p = 0.018). Individuals with SS genotypes had higher levels of antibodies that LL. In addition individuals with the SS genotype had also a higher number of titles of AE comparing LL vs SL/SS genotypes (p = 0.0018). No differences were found for the AS.

Acknowledgments: We thank ICYT-DF for the support given to this project.
Thirty years of clinical trials in obsessive compulsive disorder: Excluding the ‘true’ patient?

Odlaug B.L., Weinhandl E., Mancebo M.C., Eisen J.L., Rasmussen S.A., Schreiber L.R.N., Grant J.E.

Introduction: Obsessive compulsive disorder (OCD) is one of the most disabling mental illnesses globally. Over the past 30 years, clinical trials have resulted in several successful pharmacotheapies for OCD yet patients in clinical settings often report little or no response. This study compares the socio-demographic and clinical characteristics of a large sample of community members with OCD to the inclusion/exclusion criteria used throughout pharmacotherapy trials.

Methods: The sample was obtained from the Brown Longitudinal Obsessive Compulsive Study consisting of 325 community members with a DSM-IV diagnosis of OCD. MedLine, PubMed, and professional library resources were searched for studies published between 1980-2010 using the keywords obsessive compulsive disorder, efficacy, pharmacotherapy, medication, double-blind, placebo-controlled, clomipramine, fluoxetine, paroxetine, sertraline, and fluvoxamine. We estimated the proportion of patients in each decade satisfying the most common inclusion/exclusion criteria (operationalized as criteria present in ≥65% of the clinical trials). Pearson correlation estimates were calculated among criteria.

Results: Forty-two clinical trials were included in the analysis. Overall, 72.0% [95% CI: 66.8% - 76.8%] of the 325 subjects included in this sample would have been excluded from trials conducted between 1980-2010. The exclusion rate was dramatically lower between 1980-1989 when only 19.7% the sample would have been excluded but rose to 74.8% for trials conducted between 1990-1999 and 76.9% between 2000-2010.

Conclusions: Over the past 20 years, the majority of community members with OCD would not qualify for OCD treatment studies due to high depression scores, co-occurring anxiety disorders, and a failure to meet threshold criteria for clinical severity based upon measures like the Yale Brown Obsessive Compulsive Disorder rating scale. Given the low rates of treatment response and recent trend in pharmacotherapeutic augmentation studies for OCD, this study illustrates the need to include a more community-representative sample of patients with OCD in clinical trials examining pharmacotherapy efficacy.
Comorbid depression in treatment refractory OCD. Prevalence, severity and outcome data for 179 patients
Patel R., Tyagi H., Drummond L.
OCD/BDD Unit, Springfield Hospital, South West London and St Georges’ Mental Health Trust

Background: Current research evidence suggests that comorbid depression with OCD leads to poorer outcomes in treatment. As depression frequently accompanies OCD, it can be one of the most important factors in producing refractoriness for OCD treatment.

Method: Our study investigated all patients, with a primary diagnosis of treatment refractory OCD, accepted for outpatient treatment at a specialist OCD service in London between 1st January 2008 and 30th June 2010 to explore the relationship between OCD, Depression and treatment outcomes. Standardised measures for assessment of the severity of OCD and depression were completed at assessment, mid-treatment, discharge and follow-ups reviews up to 1 year after completion of treatment. Yale Brown Obsessive Compulsive Scale (Y-BOCS) was used to assess the severity of OCD. To assess the symptoms and severity of co-morbid depression, self-rated Beck Depression Inventory (BDI) and clinician rated Montgomery Asberg Depression Rating Scale (MADRS) were used. PADUA inventory was used to assess the symptoms of OCD. Routinely collected social and demographic data was also used to understand the role of any additional factors in treatment outcomes.

Results: Preliminary results indicate that 92.2% of treatment-refractory patients in our sample (165/179) were depressed. Individual differences in symptom severity and treatment response are discussed in the poster.

References

Note: This research was presented at American Psychiatric Association’s 2012 Annual Meeting.
Objective: The objective of the present study was to examine association between monoamine oxidase A (MAO-A) polymorphisms and obsessive-compulsive disorder (OCD) related phenotypes in 83 Brazilian trios.

Methods: The study sample comprised 83 OCD probands and their parents. Six single-nucleotide polymorphisms were genotyped and transmission disequilibrium was analyzed.

Results: MAO-A was associated with a broadly-defined OCD phenotype (when 75% of DSM IV criteria for OCD was met) as well as with OCD spectrum disorders (i.e., anxiety disorders, body dimorphic disorder, skin picking and trichotillomania).

Conclusions: The association between MAOA and obsessive-compulsive symptoms as well as OCD spectrum disorders could bolster the notion that altered MAO-A function influences different neurotransmitters and pathways, resulting in low specificity for behavioral changes. Further association studies of OCD-related phenotypes, involving larger independent samples, are required.

Keywords: Obsessive-Compulsive Disorder; Catechol-O-Methyltransferase; Monoamine Oxidase; Genetic Association Study
The State of Art of Association between COMT gene and Obsessive-Compulsive Disorder

Department and Institute of Psychiatry, University of Sao Paulo Medical School
Serviço Médico Universitário, Universidade Federal da Bahia
Departamento de Neurociências e Saúde Mental, Universidade Federal da Bahia
Hospital Universitário (Com-HUPES), Universidade Federal da Bahia
Instituto de Saúde Coletiva, Universidade Federal da Bahia

Background: Catechol-O-methyltransferase (COMT) is responsible for dopamine metabolism and has been thought to play a role in obsessive-compulsive disorder (OCD)-related pathways by influencing dopamine levels. However, the genetic association between COMT polymorphisms and OCD has not consistent across studies.

Methods: Here, a systematic review and meta-analysis was performed. To interpret the number of genetic association studies between COMT and OCD available in the literature, the Venice Interim Guidelines was established for determining the credibility of the related cumulative evidence.

Results: The systematic review found 23 studies and 21 of them were included in the meta-analysis. Results of the present meta-analysis, together with the literature review, added to the accumulated evidence suggesting a weak association between variants in the COMT Val158Met polymorphism and OCD.
Brain imaging correlates of olfactory dysfunction in OCD

Segalàs C., Soriano-Mas C., Alonso P., Cardoner N., Real E., López-Solà C., Subirà M., Menchón J.M.

OCD Clinical and Research Unit, Department of Psychiatry, Bellvitge University Hospital, Barcelona, Spain.

BACKGROUND:

Olfactory dysfunction has been described in several neuropsychiatric disorders and specifically in Obsessive Compulsive Disorder (OCD). Brain regions involved in smell processing in healthy people are overlapped with structures implicated in the neurobiological bases of OCD. No previous study has analyzed neuroanatomical correlates of olfactory dysfunction in OCD. The aim of our study was to examine the association between regional gray matter volume assessed by a Voxel-based Morphometry (VBM) analysis of Magnetic Resonance Images (MRI) and olfactory functions, tested by Sniffin’ Stick test (SST).

METHODS:

Olfactory function was assessed in 19 OCD patients and 19 healthy volunteers using the “Sniffin’ Stick test”. Images from all the sample were acquired with a 1.5-T MRI scanner and precessed with SPM8.

RESULTS:

OCD patients showed significant impairment in all of the smell functions (threshold, discrimination and identification) assessed with SST compared to healthy volunteers. Voxel-based mapping of brain structures in healthy controls revealed significant and positive association between threshold score and increase of gray matter volume of the left anterior cingulated cortex. In OCD patients a positive correlation was found between lower identification capacity and increase of gray matter volume of the posterior olfactory sulcus.

CONCLUSIONS:

Our findings support the hypothesis that some of the olfactory dysfunctions described in OCD are associated with volumetric changes in brain areas implicated in the disorder.
Does inflammation play a role in Obsessive Compulsive Disorder?


1- Section on Neuroendocrine Immunology and Behavior, National Institute of Mental Health, National Institutes of Health, Bethesda, MD, USA
2- Obsessive-Compulsive Spectrum Disorders Program, Department & Institute of Psychiatry, University of São Paulo Medical School
3- Dept. of Psychology, The Ohio State University, Columbus, OH, USA

Background: An imbalance between pro and anti-inflammatory cytokines has been described in psychiatric disorders, such as depression and schizophrenia. Immune dysregulation has been hypothesized to play a role in at least some cases of OCD. Studies of cytokines in OCD patients have shown contradictory results and some studies have shown that specific obsessive compulsive symptoms are associated with specific cytokines.

Objectives: The aim of this study was to evaluate the association between cytokine profiles and OCD severity in OCD patients before and after intervention as compared to healthy controls.

Methods: Plasma levels of pro-inflammatory (IL-1\(\alpha\), IL-1\(\beta\), IL-2, IL-6, IL-8, TNF\(\alpha\) and IFN\(\gamma\)) and anti-inflammatory (IL-10, IL-4, TGF\(\beta\)) cytokines were evaluated in 70 OCD patients and 101 healthy controls. Clinical and immunological evaluations were performed at baseline and 12 weeks later after treatment. The second assessment was performed in 43 OCD patients (59.7%) and 87 healthy controls (86.1%). Cytokine levels were analyzed by glass chip-based-Ab microarrays. Generalized estimating equations were applied to determine associations between cytokines (continuous and binary) and OCD diagnosis and severity, after controlling for psychotropic medication.

Results: Thirty (43%) OCD patients presented with depression (MDD and/or Dysthymia). Cytokine profiles were similar in OCD patients with depression, OCD patients without depression, and healthy controls; and also in OCD patients before and after treatment. There was no significant association between cytokine levels and YBOCS scores, or between cytokine levels and Beck Depression scores. However, log\(\_{10}\) TNF\(\alpha\) was associated with reduction in YBOCS scores (0.0104; p=0.047); the presence of IL-1\(\beta\) was associated with 81% reduction of YBOCS scores (-0.201, p=0.046); and the presence of IFN\(\gamma\) (0.2739, p=0.028) was associated with 31% increase of YBOCS scores.

Conclusion: OCD patients (with and without depression) did not exhibit different cytokine patterns compared to healthy controls. However, specific cytokines were associated with OCD severity and treatment response.

Financial Support: NARSAD Joan Granlund Investigator Award, FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo, BRAZIL)
Clinical Features of “Pure” Obsessive-Compulsive Disorder


Background: Psychiatric comorbidity is the rule in obsessive-compulsive disorder (OCD). However, very few studies have evaluated the clinical characteristics of patients with no co-occurring disorders (non-comorbid or “pure” OCD). The aim of this study was to estimate the prevalence of “pure” cases in a large multicenter sample of OCD patients and to compare socio-demographic and clinical characteristics of individuals with and without any lifetime axis I comorbidity.

Method: Cross-sectional study with 955 adult patients of the Brazilian Research Consortium on Obsessive-Compulsive Spectrum Disorders (C-TOC). Assessment instruments included the Yale-Brown Obsessive-Compulsive Scale, the Dimensional Yale-Brown Obsessive-Compulsive Scale, The USP-Sensory Phenomena Scale and the Brown Assessment of Beliefs Scale. Comorbidities were evaluated using the Structured Clinical Interview for DSM-IV Axis I Disorders. Bivariate analyses were followed by logistic regression.

Results: Only 74 patients (7.7%) presented “pure” OCD. Compared to those presenting at least one lifetime comorbidity (881, 92.3%), non-comorbid patients were more likely to be female and to be working, reported less traumatic experiences and presented lower scores in the Y-BOCS obsession subscale and in total DY-BOCS scores. All symptom dimensions, except contamination-cleaning and hoarding, were less severe in non-comorbid patients. They also presented less severe depression and anxiety, lower suicidality and less previous treatments. In the logistic regression, the following variables predicted pure OCD: sex, severity of depressive and anxious symptoms, previous suicidal thoughts and no previous psychotherapy.

Conclusions: “Pure” OCD patients were the minority in this large sample and were characterized by female sex, less severe depressive and anxious symptoms, less suicidal thoughts, and fewer use of psychotherapy as a modality of treatment. Implications of these findings for clinical practice are discussed.
Gender Differences in Body Dysmorphic Disorder

Authors
Tyagi H., Govender A., Drummond L.M.
OCD & BDD Service, Springfield University Hospital, London UK South West London and St George's Mental Health Trust

Introduction
Gender is unequivocally tied to self-perception of one’s own body image. However, disorders of body image usually do not have gender specific approaches to treatment, mainly due to a relative lack of evidence for similarities and differences between genders. This study investigated gender similarities and differences in self reported preoccupations with various body parts in patients with Body Dysmorphic Disorder.

Method
We investigated 54 patients with a diagnosis of BDD, who were assessed between 2008 and 2011 at a specialist centre for OCD and BDD, based at Springfield University Hospital, London UK. Routinely collected standard measures at the time of assessment i.e. Yale Brown Obsessive Compulsive Scale (YBOCS-BDD), Body Dissatisfaction Checklist, Beck Depression Inventory (BDI), Montgomery-Asberg Depression Rating Scale (MADRS), Sheehan Disability Scale (SDS) and sociodemographic information (relationship and employment status) were collated and analysed with respect to gender. Self report questionnaires i.e. Body Dissatisfaction Checklist, BDI and SDS were completed by the patients prior to the assessment interview. Assessment interviews were conducted by clinicians with specific expertise in the treatment of BDD. Data on the preoccupation with body parts was primarily collected from body dissatisfaction checklist and was supplemented with information reported elsewhere in the assessment and treatment reports.

Results
Our study found fewer differences than similarities between the two genders. Our data suggested that females were more likely to present late for treatment and also not be in a stable relationship at the time of presentation. Males were noted to be less likely to be employed. Males scored slightly higher on all clinician rated instruments i.e. YBOCS- BDD, BDI, MADRS and SDS. However none of these demographic or clinical factors were found to have a statistically significant difference between the two genders. Males and females did not significantly differ in terms of most of the variables on body dissatisfaction checklist. Statistically significant differences were found only in preoccupation with breasts, hips, skin (face and body) and hair (face and body, except head). Our results are similar to previously reported findings in the literature (1).

References

Note: This research was first presented at American Psychiatric Association’s 2012 Annual Meeting.
Prevalence of Smoking in Moderate to Severe Obsessive Compulsive Disorder
Tyagi H., Sirohi S., Drummond L.M.
OCD & BDD Service, Springfield University Hospital, London UK

Background
The prevalence of smoking is significantly higher in people with existing mental illness than those without mental health problems. Various reports from western countries indicate that 40-60% of all cigarettes smoked by general population are smoked by people with mental health problems. Data from the Adult Psychiatric Morbidity Survey 2007 in general population in England indicates that 32% of people with a common mental disorder smoke regularly as compared with 20% of people without a mental illness and 57% of people who had at tempted suicide in the past year were smokers. Smoking rates vary with type of mental illness with the highest incidence in psychotic illness, followed by affective disorders. However the data for smoking in OCD appears to suggest huge variations, with some studies estimating the rates of smoking in OCD as lesser than that of the general population and others more in line with other anxiety disorders and depression. In light of this relative lack of conclusive research evidence, we decided to conduct this analysis.

Method
We investigated the prevalence of smoking in people who obtained outpatient treatment for OCD from a specialised service in southwest London over the period of one year between April 2009 and April 2010 (n=154). We then compared the smoking rates in this sample with another large sample consisting of people receiving outpatient treatment for serious mental illness (psychosis or treatment refractory depression) from a community mental health team (CMHT) based in the same geographical area (n=324). Smoking data for every patient in our sample was collected and revised throughout the year as part of a quality improvement target for the local healthcare commissioning body. OCD was diagnosed via diagnostic clinical interview in the specialised service. Standardised measures were used to capture information about the severity and nature of OCD symptoms and depression in the OCD sample. A factor analysis was performed to correlate prevalence of smoking with the severity of OCD. As a secondary aim, smoking rates in people receiving treatment for severe to profound OCD were also calculated by using a sample (n=47) from the National OCD treatment service based in southwest London. Patient with severe to profound OCD (YBOCS>30) were less likely to be a current smoker than patients with moderate OCD (YBOCS 16-30) or other psychiatric illnesses.

Results
Our analysis indicate that the rates of smoking in OCD are significantly lower than that reported in the general population in England for patients with severe to profound OCD (p<0.05). However there is no difference between the smoking rates between general population and moderate to severe OCD. The rate of smoking was also found to be significantly different between regional and national services (p<0.05). No statistically significant difference was found between the severity of OCD or depression symptoms in current smokers and non smokers.

Note: This research was first presented at American Psychiatric Association’s 2012 Annual Meeting.
A Case Series of N-acetylcysteine augmentation in treatment resistant obsessive compulsive disorders

Van Ameringen M.¹, Patterson B.², Simpson W.²,³,⁴
¹ McMaster University, Department of Psychiatry and Behavioural Neurosciences, St. Joseph’s Healthcare Hamilton, 301 James St. S. Hamilton ON, Canada, L8P 3B6
² McMaster University, Department of Psychiatry and Behavioural Neurosciences, Macanxiety Research Centre, 1057 Main St. W., L02, Hamilton, ON, Canada, L8S 1B7
³ MiNDS Neuroscience Graduate Program, McMaster University, 1280 Main St. W. Hamilton ON, Canada, L8S 4K1
⁴Women’s Health Concerns Clinic, St. Joseph’s Healthcare Hamilton, 301 James St. S. Hamilton, ON, Canada, L8P 3B6

BACKGROUND: Over the past several decades, our understanding of the biological underpinnings of Obsessive Compulsive Disorder (OCD) has significantly increased. There is a general consensus that OCD is associated with abnormalities in the cortico-striato-thalamo-cortical circuitry. Pharmacological treatment investigations have focused on the role of the neurotransmitters serotonin and dopamine. Evidence-based, first-line treatments for OCD include the serotonin reuptake inhibitors (SRI), however, 40-60% of OCD patients do not respond. A wide variety of agents have been examined as adjuncts to standard SRI treatment in cases of treatment resistance, however, no gold-standard approach has been identified. Glutamate dysfunction is now thought to have a role in OCD, and use of glutamatergic treatment agents may hold promise. N-acetylcysteine (NAC) is an amino acid derivative of cysteine, available as a health supplement. It has shown efficacy in OCD-spectrum disorders and in 1 case report of treatment resistant OCD.

METHOD: A retrospective chart review of 6 treatment resistant OCD patients who had been treated with NAC for 6-12 weeks. Symptom severity was evaluated at regular clinic visits.

RESULTS: Five of 6 patients took NAC for 12 weeks. The mean endpoint dose was 2833.3 ± 408.2 mg/day. Only one of the six patients responded to treatment with NAC; two patients reported a worsening of symptoms; no patients reported adverse events.

CONCLUSIONS: NAC was not effective in this sample of treatment refractory OCD patients. Whether this result was a function of the mechanism of action of NAC or of the pathophysiology of treatment refractory OCD, remains unclear.
Proton Magnetic Resonance Spectroscopy of Orbital Frontal White Matter in Medication Naïve Children with OCD

Weber A.M.\textsuperscript{1}, Soreni N.\textsuperscript{1,2}, Stanley J.A.\textsuperscript{8}, Greco A.\textsuperscript{2}, Szatmari P.\textsuperscript{2}, Schachar R.\textsuperscript{7}, Mannasis K.\textsuperscript{2}, Pires P.\textsuperscript{2}, Swinson R.P.\textsuperscript{2}, Noseworthy M.D.\textsuperscript{1,3,4,5,6}

\textsuperscript{1}School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada.
\textsuperscript{2}Department of Psychiatry and Behavioural Neuroscience, Hamilton, Ontario, Canada.
\textsuperscript{3}Electrical & Computer Engineering, McMaster University, Hamilton, Ontario, Canada.
\textsuperscript{4}Medical Physics & Applied Radiation Sciences, McMaster University, Hamilton, Ontario, Canada.
\textsuperscript{5}Diagnostic Imaging, St. Joseph’s Healthcare, Hamilton, Ontario, Canada.
\textsuperscript{6}Department of Radiology, McMaster University, Hamilton, Ontario, Canada.
\textsuperscript{7}Department of Psychiatry, the Hospital for Sick Children, Toronto, Ontario, Canada.
\textsuperscript{8}Department of Psychiatry and Behavioral Neurosciences, Wayne State University, Detroit, MI, USA

Background: Obsessive-compulsive disorder (OCD) is a neuropsychiatric disorder with a typical onset during childhood or adolescence. Initial evidence of white matter abnormalities in OCD was found in diffusion tensor imaging studies (DTI) of both youth and adult populations. Proton magnetic resonance spectroscopy (\textsuperscript{1}H-MRS) allows in-vivo measurements of several metabolic markers of white matter tissue. To date, however, no \textsuperscript{1}H-MRS studies have been published that compare brain metabolite levels between patients and controls under the age of 18.

Methods: We measured absolute concentrations of neurochemicals in the left and right orbito-frontal white matter (OFWM) between 16 medically-naïve children with OCD (mean age 12.4 years, SD=2.2) and 22 healthy children (mean age 11.1 years, SD=2.7). \textsuperscript{1}H-MRS spectra were acquired using a single voxel PRESS sequence (1.5x2.0x2.0cm\textsuperscript{3} or 6cm\textsuperscript{3} total volume), TE/TR=30/2000ms, 192 averages at 3 Tesla. Spectra were analyzed using LCModel and absolute concentrations were obtained using the unsuppressed internal water signal method, along with tissue fractions obtained from tissue segmentation and appropriate relaxation times.

Results: No statistically significant differences in phosphocreatine + creatine (PCr+Cr), glutamate (Glu), myo-inositol (mI), N-acetyl-aspartate (NAA), or total choline (GPC+PC) were found between subjects with OCD and healthy controls in either the left or right OFWM, even when controlling for age.

Discussion/Conclusion: This is the first published study of white matter metabolite levels in children and adolescents with OCD. In contrast to findings in adults, we did not find OFWM metabolite abnormalities.