EPP0822

Functional connectivity between brain regions underlying executive control and language in schizophrenia patients with history of auditory verbal hallucinations

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doi: 10.1192/j.eurpsy.2021.1110

Introduction: Schizophrenia patients with auditory verbal hallucinations (AVH) demonstrate impaired functional connectivity (FC) between brain regions, involved in executive functions and language. However, as most studies compare patients to healthy controls, the specificity of these findings either for schizophrenia in general or for AVH is unclear.
Objectives: We aimed to compare whole-brain resting-state FC of main language brain regions between schizophrenia patients with and without history of AVH and healthy controls.
Methods: Schizophrenia male patients with (n=31; mean age 29,8±11,6) or without history of AVH (n=16; 29±12,4) and 39 healthy male controls (30±8,9) underwent resting-state fMRI on 3T Philips scanner. No between-group differences in age, illness duration, and severity of clinical symptoms except AVH were revealed. Regions of interest (ROIs) were taken from the independent fMRI study with conventional language localizer and included left inferior frontal gyrus (l_IFG) and superior temporal gyri (STG) bilaterally. Whole-brain FC of each ROI was compared between groups (ANCOVA; p<.005 voxelwise; p(FDR)<.017 clusterwise, corrected for number of ROIs) with post hoc tests.
Results: Decreased FC between each STG (left and right) and anterior cingulate cortex (ACC) was revealed in all patients, compared to healthy controls. Patients with history of AVH, compared to other groups, showed decreased FC between l_IFG and ACC.
Conclusions: Disrupted fronto-temporal FC is non-specific for AVH and characterizes all schizophrenia patients. Patients with history of AVH have impaired FC between the l_IFG, underlying language production, and ACC, involved in differentiation between language production and comprehension. The study was supported by RFBR grant 18-013-01214.

Conflict of interest: The study was supported by RFBR grant 18-013-01214.
Keywords: schizophrénia; auditory verbal hallucinations; resting-state fMRI; functional connectivity

EPP0821

Relationship between cognitive functions and empathy in patients with neurocognitive deficit

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doi: 10.1192/j.eurpsy.2021.1111

Introduction: Empathy is a social emotive skill that let to experience the same feelings of another person without being in the same situation. It changes during the growth becoming more over sophisticated with the involving of cognitive functions such as perspective taking (Hoffmann, 2000). Several researches observed a correlation between empathy and psychopathologies that involve cognitive functions such as attention and executive functions (Abdel-Hamid et al., 2019; Blair, 2018; Pijper et al., 2018) or decision-making (Francis et al., 2019).
Objectives: To investigate the impact of cognitive impairment on different empathy dimensions.
Methods: 80 subjects with severe neurocognitive deficit were examined. WAIS-R, neuropsychological battery and IRI test were performed.
Results: The impairment of perspective-taking dimension was significantly noticeable (=or<17/30). In addition, impairments of self-regulation process and inner-state monitoring mechanisms were also observed (=or<18/40).
Conclusions: According to previous researches, this study confirms that empathy can be reduced when cognitive functions are compromised by psychopathologies or other medical conditions. Personal distress and perspective taking are empathy dimensions more affected in these cases.

Keywords: cognitive functions; empathy; perspective taking; neurocognitive deficit

EPP0822

Lysergic acid diethylamide (LSD) promotes social behaviour through 5-HT_{2A} and ampa in the medial prefrontal cortex (MPFC)

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doi: 10.1192/j.eurpsy.2021.1112

Introduction: Autism Spectrum Disorder and Social Anxiety Disorder are mental illnesses characterized by a dysfunction in social behavior (SB); a phenomenon largely mediated by the medial prefrontal cortex (mPFC). Clinical studies have demonstrated that lysergic acid diethylamide (LSD), a partial agonist of the 5-HT_{2A} receptor, can promote SB. However, its mechanism of action on SB is unknown.
Objectives: To assess the effects of repeated LSD administration on social behavior in mice and to identify which mPFC receptors mediate LSD's behavioral effects.
Methods: Eight-week-old C57BL/6J male mice received vehicle or repeated LSD (30 µg/kg/day i.p. for 7 days) as well the selective 5-HT_{2A} receptor antagonist MDL, or the AMPA receptor antagonist NBQX. Twenty-four hours following the last injection, mice underwent the Direct Social Interaction Test and the Three-Chamber Test (TCT) to assess sociability and preference for social novelty. in vivo electrophysiological recordings were performed in mice treated with vehicle or LSD using multi-barrelled electrodes for microiontophoretic ejections of the selective 5-HT_{2A} receptor agonist DOI or the selective AMPA receptor agonist quisqualate on mPFC pyramidal neurons.
Results: Repeated treatment with low doses of LSD increased the interaction time in the DSI as well as sociability and social novelty indices in the TCT. These pro-social effects were blocked by the

intra-PFC administration of both 5-HT_{2A} and AMPA antagonists. LSD also potentiated, in a current-dependent manner, the excitatory response of mPFC neurons to 5-$HT_{2A}$and AMPA agonists.
Conclusions: Repeated, low doses of LSD increases social behavior via a mechanism of action that is mediated by 5-HT_{2A} and AMPA in the mPFC.

Keywords: LSD; sociability; electrophysiology; behavior

EPP0824

Comorbidity and therapeutic response of body dysmorphic disorder (BDD) in autism spectrum disorder (ASD)

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doi: 10.1192/j.eurpsy.2021.1113

Introduction: Autism spectrum disorder (ASD) is a neurodevelopmental disorder with a biological basis overlapped with obsessive compulsive disorders and body dysmorphic disorder (BDD). The combination of pharmacological treatment and psychological interventions have been considered the gold-standard
Objectives: Our main objective was to present the case of a patient with ASD and comorbid BDD. As a second objective, we reviewed recent works on the common neurobiological substrate and therapeutic options for both conditions.
Methods: (1)Clinical case: Patient with ASD and BDD, treated with fluoxetine 60 mg/day and aripiprazole 30 mg/day. (2)Non-systematic narrative review focused on neurobiological substrate and treatment of ASD and BDD. The electronic search was performed by the PubMed database (1990-2020) using the following key terms: "autism spectrum disorder", "body dysmorphic disorder", "dysmorphophobia", "neurobiology", "pharmacological treatment", "psychological treatment" and "treatment".
Results: Our patient is a 31-year-old single male fulfilling DSM-5 criteria for ASD, diagnosed in childhood, and BDD. He received pharmacological treatment and CBT. He also verbalized having been concerned with his lips and mouth for the last 10 years. This discomfort leads to passive ideas of death. Review: All articles (n=4) supported the use of selective serotonin reuptake inhibitors (SSRIs) and CBT in this comorbidity. None of them reported the use of antipsychotics. Oone article described the use of Repetitive transcranial magnetic stimulation (rTMS) and oxytocin.
Conclusions: ASD and BDD share the basis of corticostriatal circuits. ISRS and CBT may be effective in treatment. Other options (oxytocin or rTMS) should be further investigated. Examining this comorbidity could be useful for discovering possible endophenotypes.

Keywords: body dysmorphic disorder; autism spectrum disorder; comorbidity; psychologicaL therapy

EPP0825

Psilocybin in the treatment of obsessive-compulsive disorder: What do we know so far?

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doi: 10.1192/j.eurpsy.2021.1114

Introduction: Psilocybin is a naturally occurring plant alkaloid in mushrooms and a prodrug of psilocin. It is a serotonin receptor (5-HT2A) agonist and known psychedelic, with similar hallucinatory properties to lysergic acid diethylamide (LSD). It has been identified as a safe and effective option in treatment-resistant depression. Literature focus mainly on its use on depressive but its interest in other psychiatric disorders such as obsessive-compulsive disorder (OCD) has grown.
Objectives: To review the clinical evidence for the use of hallucinogens such as psilocybin in OCD.
Methods: Non-systematic review of literature found on PubMed/MEDLINE, Web of Science and Google Scholar, using the keywords "obsessive-compulsive disorder", "psilocybin" and "hallucinogens". Articles may include clinical trials, case report or case series. Articles found were admitted according to their relevance for the topic in review; only articles in English were included. Ongoing research trials on this topic were checked on ClinicalTrials.gov.
Results: So far, only one open-label non-randomized study directly assessed the effects of psilocybin on OCD patients that found acute reductions of obsessive-compulsive symptoms. Case reports of patients improving with off-label use of psilocybin are reported. There are two ongoing phase I research trials, aiming to explore the effect of the substance on symptomatology, hypothesizing that psilocybin will normalize cerebral connectivity and thus correlate with clinical improvement.
Conclusions: More research to establish the usefulness of psilocybin in OCD patients is needed; the collected data is encouraging are there may be a role for its use on this disorder.

Keywords: Obsessive-Compulsive disorder; Psilocybin; Hallucinogens

EPP0826

Autistic traits predict obsessive-compulsive symptoms: Study in a clinical sample

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doi: 10.1192/j.eurpsy.2021.1115

Introduction: Co-occurrence of obsessive-compulsive disorder (OCD) and autism spectrum disorder (ASD) features is well