67%±13%). Functional MRI revealed decreased activation in the right inferior frontal (rIFC, \text{FWE-cluster}=0.02) and left middle temporal gyrus (MTG, \text{FWE-cluster}=0.03) to negative faces following citalopram infusion (for p=0.001 uncorrected on peak level).

**Conclusions:** The newly implemented methods yielded serotonin transporter occupancy values in agreement with published data obtained using well validated procedures [1]. FMRI results are at odds with increased activity during an emotional paradigm in the MTG following 10 days of SSRI treatment observed by our group [2]. Further, meta-analysis revealed lower activation to negative stimuli in the rIFC of depressed patients [3]. These preliminary results indicate that acute challenge with a subtherapeutic SSRI dose elicits brain activation changes distinct to those seen with prolonged treatment. It will be interesting to see what insights will arise from direct integration of molecular and functional imaging data in clinical populations.

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**PS169**

Disruption of relationship between serotonin transporter and hippocampal volumes in first-episode drug-naïve major depressive disorder

**Abstract**

**Objectives:** Reduction of hippocampal volumes has been consistently reported in patient with major depressive disorder (MDD). Meanwhile, alteration of serotonin transporter (SERT), which terminates the serotonin action, has been implicated in the pathophysiology of MDD. However, the study of the relationship between SERT and hippocampus was still limited. The aim of this study was to examine their relationship in MDD.

**Methods:** Twenty-five unmedicated acute MDD patients (mean age±SD=31.9±8.9years, 17 women, mean HAMD=25.3) and 36 healthy subjects (HC, 27.8±6.7, 22w) underwent a 7T fMRI scan. Acquisition parameters were TE/TR=23/1400ms with a voxel size of 1.5×1.5×1.25mm. A visual cue indicated painful or non-painful stimuli randomly between 5–15sec. To create uncertainty, an unsure condition signaled a 50:50 chance of painful or non-painful stimulation given for 500ms via an electrode attached to the left hand at an individually adjusted pain threshold. Standard preprocessing was performed in SPM12. Non-painful stimulation was contrasted against uncertain non-painful stimulation (50:50 chance of pain or no pain), painful stimulation against non-painful stimulation and painful stimulation against uncertain painful stimulation. A multiple regression model was calculated in SPM 12, adjusting for sex and age applying the cluster-level family-wise error rate (FWE) correction at p<0.05.

**Results:** Compared to HC, uncertain non-painful vs. non-painful stimulation in aMDD patients revealed significantly decreased activation for uncertainty in the bilateral putamen (right: p=0.031, left: p=0.003, FWE corrected) spreading to the bilateral amygdala. There were no group differences between painful and non-painful stimulation or uncertain painful stimulation.

**Conclusions:** Both regions were found to exhibit hypoactivation to positive stimuli and hyperactivation to negative stimuli in a meta-analysis combining emotional facial expressions or rewarding stimuli [2]. This study adds that uncertainty during anticipation of non-painful stimuli, which should exhibit

**PS170**

Decreased response of putamen and amygdala in major depressive patients during uncertainty of non-painful stimuli

**Abstract**

**Introduction:** Major depressive disorder (MDD) patients are prone to negativity, which is associated with increased activation in the underlying neuronal systems during anticipation and processing of neutral or negative stimuli [1]. Moreover, pain is a very common symptom. To assess bias of painful processing we investigated anticipation and stimulation of painful stimuli in acute MDD patients and analyzed uncertainty of non-painful stimuli.

**Methods:** Twenty-five unmedicated acute MDD patients (mean age±SD=31.9±8.9years, 17 women, mean HAMD=25.3) and 36 healthy subjects (HC, 27.8±6.7, 22w) underwent a 7T fMRI scan. Acquisition parameters were TE/TR=23/1400ms with a voxel size of 1.5×1.5×1.25mm. A visual cue indicated painful or non-painful stimuli randomly between 5–15sec. To create uncertainty, an unsure condition signaled a 50:50 chance of painful or non-painful stimulation given for 500ms via an electrode attached to the left hand at an individually adjusted pain threshold. Standard preprocessing was performed in SPM12. Non-painful stimulation was contrasted against uncertain non-painful stimulation (50:50 chance of pain or no pain), painful stimulation against non-painful stimulation and painful stimulation against uncertain painful stimulation. A multiple regression model was calculated in SPM 12, adjusting for sex and age applying the cluster-level family-wise error rate (FWE) correction at p<0.05.

**Results:** Compared to HC, uncertainty non-painful vs. non-painful stimulation in aMDD patients revealed significantly decreased activation for uncertainty in the bilateral putamen (right: p=0.031, left: p=0.003, FWE corrected) spreading to the bilateral amygdala. There were no group differences between painful and non-painful stimulation or uncertain painful stimulation.

**Conclusions:** Both regions were found to exhibit hypoactivation to positive stimuli and hyperactivation to negative stimuli in a meta-analysis combining emotional facial expressions or rewarding stimuli [2]. This study adds that uncertainty during anticipation of non-painful stimuli, which should exhibit