with less negative symptoms and controls (Fig. 1). Our reward task correlates well with negative symptoms. Thus, it could offer a behavioral measure of negative symptoms. It could be a good instrument to study the neurobiological basis of negative symptoms using functional techniques.
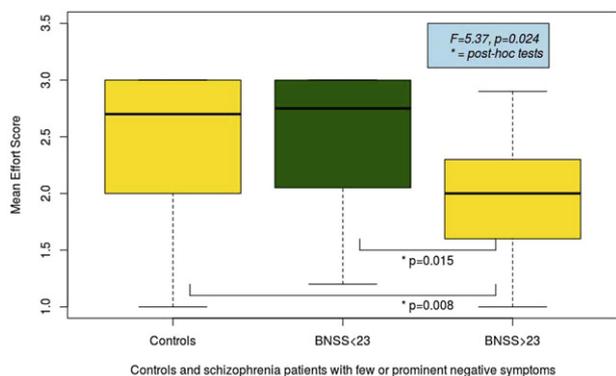

Fig. 1 Reward task output in controls and schizophrenia patients

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EW0695

Brain connectivity in patients with schizophrenia related to psychological stress

M. Castro*, L. Drucaroff, E. Costanzo, A. Wainsztein, S. Guinjoan, M. Villarreal
Conicet, Fleni, UBA, psychiatry, Caba, Argentina
* *Corresponding author.*

Introduction   It is commonly accepted that in most patients with schizophrenia external factors act on genetic predisposition to produce active psychotic symptoms. In fact, we showed that patients with schizophrenia have an abnormal brain activation and peripheral autonomic response to psychological stress. We sought to characterize the brain connectivity networks of such response in schizophrenia.
Methods   We studied the pattern of brain connectivity in relation to mental arithmetic stress paradigm in 21 patients and 21 healthy subjects aged 18 to 50 years, using 3T-fMRI. A period of 6 minutes of resting state acquisition (PRE) were followed by a block design with three 1-minute CONTROL task (one digit sum), 1-minute STRESS task (two digit subtraction) and 1-minute rest after task (POST). Pairwise Pearson correlations were calculated between 90 regions of interest. Data were analyzed with MATLAB and SPSS software.
Results   Patients with schizophrenia showed a lower connectivity network between fronto-temporal limbic areas compared with control subjects during control and stress task. Moreover, we observed a great variability of link density during resting state in patients but not in controls, and it diminishes in response to task.
Conclusions   Patients present abnormalities in networks related to stress response showing an alteration in fronto-temporal connectivity, and a poor and random modulation of these networks at rest. Current and previous findings suggest abnormal fronto-temporal connectivity that ultimately would lead to psychotic symptoms emergency in response to an environmental stressor and, even, could be related to hypervigilance and misattribution feeding into the paranoid cognition characteristic of patients with schizophrenia.

Disclosure of interest   The authors have not supplied their declaration of competing interest.

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EW0696

Non-verbal learning disorder: Neuropsychological profile and neural correlates. A structural magnetic resonance imaging study

M. Cervino*, P. Castrillo, R. Guijarro
Complejo hospitalario universitario de Granada, servicio Andaluz de Salud, unidad de rehabilitación de Salud Mental, Granada, Spain
* *Corresponding author.*

Non-verbal learning disorder (NVLD) is a neurological condition which is considered to be a learning disability. It is characterised by a specific dysfunction in motor, visuospatial and social skills in patients with a normal intellect and development of language. Warning signs in school are poor psychomotor coordination, arithmetic skills and drawing activities. Social judgment and social problem solving are also typically impaired. Furthermore, these patients seem to have increasing risk of emotional disorders. Most of imaging studies and current theories suggest that a dysfunction of white matter in the right hemisphere could be the cause. However, there is a lack of consensus among experts regarding whether NVLD exists and what could be the underlying causes for NVLD symptoms. The aim of this paper is to clarify the neural correlates underlaying the cognitive functioning of these patients. With this objective, we analyzed a sample of brains of children with and without NVLD. We used the structural MRI technique and the voxel-based morphometry analysis. The diagnosis of the children were based on neuropsychological data. The present study suggests that not only white matter of the right hemisphere is dysfunctional in these patients. Some other gray matter areas such as precuneus (superior parietal lobule) may also be affected in NVLD.

Disclosure of interest   The authors have not supplied their declaration of competing interest.

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EW0697

Apathy in depression: An arterial spin labeling study

C. Conan [1],*, J.M. Batail [1], I. Corouge [2], J. Palaric [1], G. Robert [1], D. Drapier [1]
[1] *Centre hospitalier Guillaume-Regnier, PHUPA, Rennes, France*
[2] *INRIA, VisAGeS project-team, Rennes, France*
* *Corresponding author.*

Introduction   Apathy is usually defined as a lack of goal-directed behavior. Although it is observed in about 30% of depressed patients, neurovascular mechanisms underpinning apathy remain little-known.
Objectives   The main objective of this study was to compare the cerebral perfusion of apathetic depressed patients with non-apathetic depressed patients by arterial spin labeling (ASL), a quantitative and non-invasive perfusion magnetic resonance imaging (MRI) technique. The secondary objectives were to study their clinical profile and their correlation with cerebral perfusion data.
Methods   This study was conducted from a cohort of depressed patients in Rennes, France. Eighty-three depressed patients were included, of whom 22 were apathetic (AES≥42), 61 non-apathetic (AES < 42). Everyone got a clinical evaluation with scale screenings, especially for apathy (AES), anxiety (STAI) and anhedonia (SHAPS) as well as a cerebral MRI, including a pseudo-continuous ASL sequence.