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On the trail of schizophrenic symptoms

Dr Edith Pomarol-Clotet

Online lunchtime seminar

Thursday 15th June, 12.30-1.30pm

Join Zoom meeting: ID 926 8180 6399

Passcode: 500564



Abstract

In recent years, partly as a result of the American NIMH Research Domain Criteria (RDoC) initiative, the mechanisms underlying the symptoms of schizophrenia have become a focus of interest. This talk describes some of the efforts made in this direction made by our group, FIDMAG, in Barcelona. The negative symptoms of schizophrenia appear particularly amenable to RDoC oriented research, not least since there have only ever been two theoretical approaches to them. One is that they are a psychiatric equivalent of the frontal lobe syndrome. The other is that they reflect reduced responsiveness to stimuli that have acquired rewarding properties through learning. We tested the former proposal using a novel fMRI task, the Computerised Multiple Elements Test (CMET), which is designed to be sensitive to goal neglect, a key cognitive component of the frontal lobe syndrome, in patients with and without negative symptoms, and also healthy controls. To examine the 'reduced reward responsiveness' theory of negative symptoms, the patients and controls carried out a probabilistic monetary reward task designed to generate a measure of reward prediction error (RPE). Findings from both studies pointed to reduced activation in the prefrontal cortex being particularly relevant to negative symptoms. Auditory hallucinations (AVH) are another symptom whose basis has been extensively investigated using functional imaging, often by means of the so-called symptom capture technique, where patients button press when they hear a voice in the scanner. We used a modification of this paradigm where patients with near-continuous AVH not only button-pressed when they heard a hallucinated voice but also when they heard real words and phrases resembling their AVH. Our results suggest that AVH are not due to spontaneous neuronal activity in the auditory cortex, and probably do not reflect intrusive memories. The lecture will also describe some other studies relevant to negative and other schizophrenic symptoms.

Biography of Dr Edith Pomarol-Clotet

Dr. Edith Pomarol-Clotet is director of the FIDMAG Research Foundation in Barcelona and Coordinator of the National Schizophrenia Programme of the Spanish mental health research network, CIBERSAM. After obtaining her PhD from the University of Luebeck (Germany), she worked between 1998 and 2005 in Cambridge as a postdoctoral researcher in the Brain Mapping Unit (Ed Bullmore) and in Fulbourn Hospital (German Berríos and Peter McKenna). After returning to Barcelona, she began research in what became the FIDMAG Research Foundation, which coordinates research in 21 Hospitals across Spain. Her main lines of research are structural and functional neuroimaging in major mental illnesses, but FIDMAG also carries out genetic studies and clinical trials, most recently the world's first trial of deep brain stimulation (DBS) in schizophrenia. Several current projects are directed to relating the symptoms of schizophrenia to brain structural and functional changes.