

disorder 15%). Patients with arrhythmia were much more likely to accurately perceive their heartbeats than the other groups and the controls. Fear of bodily sensations was significantly higher in the sinus rhythm group and all three groups were significantly more worried about palpitations and about heart disease and illness than controls.

- The intervention was popular with patients who said that they found the explanation and advice helpful. Whilst for a number of patients in the control group outcome improved, significantly more treated patients had better outcomes in terms of frequency of palpitations, their distress and other reactions to them and in limitation of everyday life.

**Conclusion:** Psychiatric disorder and health anxiety were particularly common in the sinus rhythm group. All three groups described significant distress and limitation of everyday activities, often of long duration. A simple nurse-delivered intervention was effective.

## S64-6

### MIGRAINE AND PSYCHIATRIC DISORDERS. A POPULATION AND REGISTER BASED INVESTIGATION

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The literature reports that migraine and depression are associated disorders. Such an association is interesting from an aetiological, psychodynamic, genetic epidemiological and health-care cost point of view.

We investigated the association of migraine and depression in a population-based sample of 484 migraineurs. The participants received a diagnosis by a physician according to the International Headache Society criteria and data on their psychiatric morbidity was drawn from the Danish Psychiatric Case Register. Drop-out analysis was performed. The data showed that migraineurs were not more prone to hospitalisation due to depression than people who never had migraine.

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## FC65. Biological psychiatry – basic research

*Chairs:* H D'Haenen (B), H Aschauer (A)

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### FC65-1

#### ACTION AS A DETERMINANT IN STIMULUS PROCESSING AS ASSESSED BY THE CONDITIONED TASTE AVERSION PARADIGM IN RATS

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It has long been recognised that patients suffering from schizophrenia tend to have difficulties to take information from their environment in an "active" way. Surprisingly, this problem has received little attention. Thus, we have developed a rodent model allowing us to document the role of the action related to stimulus processing for its subsequent integration.

For this purpose, we used the conditioned taste aversion paradigm in rats. This paradigm consists in pairing the consumption of a flavoured solution -the target stimulus being the taste- with a

gastric malaise induced by a systemic injection of lithium chloride. Taste processing is assessed by the ensuing null or weak consumption of the flavoured solution by the animal. This procedure can be achieved either "actively", -which requires from the rat the development of a self-generated activity to take the flavoured solution from a drinking tube-, or "passively", - which *does not* require such an activity, the flavoured solution being perfused intraorally-. The difference between these two procedures relies on the presence or not of an activity related to the consumption of the taste stimulus at the time of learning. We found an improved performance for the active condition, as opposed to the passive one. This suggests that the cognitive processing of the stimulus is modulated at least, by the presence of a related self-generated action.

We will present recent data from our laboratory aimed at documenting the psychological and pharmacological sensitivity of our model.

### FC65-2

#### INDICATORS OF CHRONIC IMMUNE ACTIVATION IN SCHIZOPHRENIA

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It has been hypothesized that schizophrenia may be accompanied by an acute phase response (apr).

Serum concentrations of interleukin-6 (IL-6), soluble interleukin-6 receptor (sIL-6R), soluble interleukin-2 receptor (sIL-2R), interleukin-1 receptor antagonist (IL-1RA) and Clara cell protein (CC 16) as well as concentration of acute phase proteins: C-reactive protein (CRP),  $\alpha$ -1-acid glycoprotein (AGP), haptoglobin (Hp) and AGP microheterogeneity were measured in 35 schizophrenic patients during exacerbation of their symptoms and in 20 healthy controls subjects. Patients studied were hospitalized at the Department of Adult Psychiatry in Poznan. Diagnoses were made according to DSM-IV criteria. There were 20 schizophrenics of paranoid type and 15 of residual type. There were no patients suffering from the first schizophrenic episode. All subjects were medically healthy. Measurements of cytokines were performed in Eurogenetics. Schizophrenic patients showed significantly higher serum concentrations of IL-6, sIL-6R, sIL-2R, IL-1RA, as well as AGP and Hp and significantly lower concentrations of CC 16 and lower values of glycosylation profiles of AGP than healthy controls.

The results obtained in this study confirm recent findings suggesting that schizophrenia is accompanied by immune activation of chronic type.

### FC65-3

#### ARE THE STRUCTURAL BRAIN ABNORMALITIES IN SCHIZOPHRENIA MEDIATED BY PREGNANCY AND BIRTH COMPLICATIONS?

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**Background:** A range of structural brain abnormalities have been reported in schizophrenia. Their origin is unclear but may be linked to the increased rate of pregnancy and birth complications (PBCs), particularly low birth weight, reported in schizophrenic patients. The purpose of the present study was to measure whole brain, cerebral grey matter, total ventricular and corpus callosum (CC)