Methods: A questionnaire including the WHO (Ten) Well-being index and the MDI was sent out to a randomly selected adult Swedish population and 10 441 persons participated. Psychiatrists using SCAN interviewed a selected sample. Sensitivity, specificity, Receiver Operating Characteristics (ROC) and Area Under the Curve (AUC) were calculated.

Results: When a cut-off score ≤ 8 for the Well-being scale was used and depression according to SCAN was the index of validity the sensitivity was 0.81 and the specificity 0.81. When depression according to the algorithm of the MDI was used the sensitivity was 0.89 and the specificity was 0.86 at a cut-off score of ≤ 12. There were no age or gender differences between true positive persons versus false negative persons. The AUC was good (0.86) when using SCAN and when using the DSM-IV algorithm of the MDI excellent (0.93).

Conclusion: The WHO (Ten) Well-being scale can be used as s simple screening instrument for depression in population-based studies. However, the scale needs to be further evaluated in order to examine if the recommended cut-off score in the present study could be replicated in other surveys.

P310

The effect of low-frequency rTMS on regional brain metabolism (PET) in auditory hallucinations as the background for neuronavigated rTMS

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Background: Auditory hallucinations are characteristic symptoms of schizophrenia with high clinical importance. It was repeatedly reported that low frequency ($\leq$1Hz) repetitive transcranial magnetic stimulation (rTMS) diminishes auditory hallucinations. A neuroimaging study elucidating the effect of rTMS in auditory hallucinations has not yet been published.

Objective: To evaluate the changes of brain metabolism after low-frequency rTMS in patients with auditory hallucinations.

Methods: Low-frequency rTMS (0.9Hz, 100% of motor threshold, 20 min.) applied to the left temporo-parietal cortex was used for ten days in the treatment of medication-resistant auditory hallucinations in schizophrenia (N=12). The effect of rTMS on the brain metabolism (18FDG PET) was measured before and after the treatment.

Results: We found a significant improvement in the total and positive symptoms, and on the hallucination scales (HCS, AHRS). The rTMS decreased the brain metabolism in the left superior temporal gyrus and in interconnected regions and effected increases in the contralateral cortex and in the frontal lobes (SPM).

Conclusion: The findings implicate that the effect is connected with decreased metabolism in the cortex underlying the rTMS site while facilitation of metabolism is propagated by transcallosal and intrahemispheric connections. Stereotactic neuronavigation of rTMS (SN rTMS) is a unique technology to target the rTMS coil with a high degree of anatomic accuracy based on the evaluation of the neuroimaging. Our finding enable the use of stereotactic neuronavigation of rTMS in auditory hallucination and pilot data are presented.

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P311

Inhibin b as a possible marker of antipsychotic induced sexual dysfunction in schizophrenic men

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Background and aims: AISD (Antipsychotic induced sexual dysfunction) is one of the most important reasons for therapeutic noncompliance. AISD is often described as adverse events of hyperprolactinemia, induced due to immoderate D2 occupancy (more than 72%) in the tuberoinfundibular system. Consequently the sex steroids decrease. Regulation of Follitropin secretion involves a complex balance between stimulation by GnRH from the hypothalamus, inhibitory feedback by sex steroids, Inhibins A (in both sexes) and B (in male) from the gonads and autocrine/paracrine modulation by Activin and Follistatin within the pituitary.

Method: We have tried to verify the hypothesis that inhibins could be a better marker of sexual dysfunction than prolactinemia in patients (16 men and 11 women) with stable therapy and psychopathology with a diagnosis of schizophrenia, age 18-40 years. Follitropin, Lutropin, Prolactin, TSH, Estradiol, Progesterone, Testosterone, Inhibin A (in women) and B, Activin and Follistatin were used to measure the endocrinological condition. Structured Adverse Effects Rating Scale, UKU (hyperprolactinemia), Arizona Sexual Experience Scale and International Index of Erectile dysfunction in men were used to detect sexual dysfunction.

Results: Inhibin B in men, not in women, correlated with sexual dysfunction ($p < 0.05$). Prolactinemia did not correlate with this side effect, it correlated with the absence of the menstrual cycle in women.

Conclusions: Inhibin B may be used as a marker of the functional condition in antipsychotic induced sexual dysfunction in men. Results are limited by the sample size. Further study is needed to evaluate the importance and specificity of Inhibin B.

P312

Novel evidence for the involvement of the mirror neuron system in emotional processing

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Background and aims: Mirror Neurons (MNs) constitute a system for matching action observation and execution and for recognising socially meaningful gesticulation. Here we explored the possibility that this system also contributes to emotional processing. To test this hypothesis, a novel affective startle paradigm was developed to investigate MNs and emotional processing.

Methods: Fifty healthy participants completed a startle experiment where they were presented with 36 emotionally valenced pictures equally split into positive, negative and neutral categories. All pictures were preceded by emotionally congruent primes, half of which consisted of a videoclip showing a biologically meaningful hand-object interaction and half that consisted of a control stimulus showing static images of the interaction. Acoustic startle probes were presented during picture viewing at 2.5, 3, 3.5, 4 and 4.5 second intervals and startle eyeblink responses were recorded.

Results: Startle amplitude was magnified only for emotionally negative pictures. This effect was present when the images were preceded by a prime containing biological motion but not a static prime.

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This result was found for startle probes presented at 2.5s, but not at longer intervals.

Conclusions: The MN system is involved in emotional processing, as shown by modulation of the startle reflex when a negative picture is primed with emotionally congruent biological motion. Further, this modulation occurs only when the time interval between picture presentation and startle probe is relatively short, suggesting that the MN system may provide an early warning of threat-related actions.

P313

Increase of prefrontal cortex blood flow during trail making test

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Background and aims: Trail making test (TMT) was developed as a neuropsychological test evaluating frontal lobe function. However, the contribution of frontal lobe in results of TMT is still controversial because studies in patients with brain injuries suggest the role of basal ganglia rather than frontal lobe in results of TMT.

Methods: To examine the contribution of frontal lobe in the results of TMT, we measured blood flow in frontal cortex during performance of computer version TMT-A and TMT-B.

Sixteen healthy student volunteers (8 male, 25.9±5.3 year old; 8 female, 22.0±2.9 year old) was used in the study. Seven laser beam probes and 8 sensor probes were put on frontal lobe, and absorbance of 695 nm and 830 nm infrared beams were measured at 10Hz by optic topography (ETG 4000, Hitachi, Medical Corporation, Tokyo, Japan).

Results: Concentration of deoxyhemoglobin was decreased while concentration of oxyhemoglobin was increased in the prefrontal cortex during the performance of TMT-A and TMT-B.

Conclusions: The results suggest that blood flow increases in the prefrontal cortex during the performance of TMT, and possible involvement of this brain region in the performance of TMT.

P314

Circadian rhythm of malondialdehyde formation in healthy subjects

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Objective: Malondialdehyde (MDA) is a common biologic marker of oxidative stress used in psychiatric research. Data regarding MDA levels in healthy subjects are controversial. One factor affecting MDA levels may stem from the existence of a circadian rhythm of MDA formation. The objective of this study consists of investigating whether MDA formation has a circadian rhythm of formation in healthy human subjects.

Methods: The sample was comprised by 9 healthy male subjects. None of them had a history of medical or neurological disease and routine laboratory parameters were normal. The study was carried out in accordance with the Helsinki Declaration and all subjects gave written informed consent before their inclusion. Blood samples were extracted at 12:00 and 2:00 in December 2004. The same routine was followed during the two experimental sessions. Serum MDA was determined by the thiobarbituric acid reactive substance (TBARS) according to the method of Ohkaba et al (1979).

Results: The sample was comprised by 9 male healthy subjects (age 33.0±11.7). There were significant differences in MDA levels between 12:00 and 2:00 (2.33±1.01 vs. 1.58±0.48, $p<0.015$).

Conclusions: MDA has a circadian rhythm of formation with higher levels at 12:00 than 2:00. This variation in circadian MDA levels of formation should be accounted when researching in this field.

P315

The medium latency auditory evoked response in attention deficit disorder and hyperactivity

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The Attention Deficit Disorder and Hyperactivity (ADDH) is now, a frequent diagnosis in Paediatrics Psychiatry. This real neurobiological syndrome has a variable incidence (3-12%), an early beginning (before 7 years) and an important permanency in adult age (15-20% keep diagnosis and 65% residual symptoms). It represents a risk factor for posterior psychiatric diseases, antisocial behaviour and relation problems. This makes the early diagnosis and treatment necessary. The 70-90% of the patients responds to simpatico mimetic treatment and the methylphenidate is the most used. Patients must carry out the clinical criteria and nowadays there is not any recognized helpful test for the diagnoses except the clinical one. The medium latency auditory evoked response (MLAER) appears 10-70 ms after the cochlear receptor activation and it has cortical and subcortical generators.

We studied MLAER in ADDH: their morphology, changes with treatment and relation between morphology changes and clinical response to treatment.

Patients (53) had ADDH clinical criteria, methylphenidate treatment chosed, not comorbidity neither hearing loss. First phase without treatment and second with it where we did MLAER and troncoencephalic auditory evoked response during wakefulness and sleep.

Without treatment 76% responses were asymmetric (51% of them with a specific type). The rest 23% were normal. With treatment 63% changed the morphology and 70% had a good response to treatment. Only 11% of patients without alterations had a good clinical development.

An ADDH diagnosis has different physiopathologic mechanism. The MLAER in ADDH could predict the treatment response.

P316

Orexin-a, body weight, and physical activity relationships in the rhesus monkey

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