were determined by PCR. Results were analysed using Analysis of Covariance and forward stepwise regression.

Results: We found a strong association between the presence of the s allele and the studied characteristics. ANCOVA indicated that there is a strong relationship between Hopelessness and aggressiveness, impulsiveness and affective temperaments. Forward stepwise regression indicated a significant role for depressive temperament, anxious temperament, irritable temperament, hostility and motor impulsiveness in predicting hopelessness. Adjusted whole model R2 was 37.61%.

Conclusion: Our study indicates a strong association between the s allele and factors related to increased risk of suicide. Our results show that depressive, anxious and irritable affective temperaments, hostility and motor impulsiveness influence Hopelessness, which has an important predictive role in the emergence of suicidal behaviours. Our results have implication for the recognition and prevention of possible emergence of suicidal behaviours within the healthy, non-depressed population.

P0322

Biological markers of families of patients with neurotic, stress-related and somatoform disorders

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Objective: Study biological markers of families with neurotic, stress-related and somatoform disorders for definition of probability of occurrence of mental disorders.

Methods: 131 families of patients with neurotic, stress-related and somatoform disorders. The clinical and genealogical analysis, immunofermantal analysis for definition of concentration of steroid and thyreoid hormones, estimate of processes of apoptosis at receptor and cell-like levels for patients and relatives of the first degree of relationship were carried out.

Results: Spreading of mental pathology among relatives was about 6,85 %. There was the accumulation of repeated cases of similar disorders in these families and basic share of pathology was marked among the first degrees of relationships. Among relatives of patients the group of the raised risk of occurrence of mental disorders is revealed: 1,35 siblings; 1,04 children; 0,3 grandsons; 0,85 spouses corresponds to 1 patient. The statistically significant increased levels of cortizol, triiodthyronin and thyroxine ($p<0,05$) and the lowered maintenance of dehydroepiandrosteronum ($p<0,05$) is characteristic for patients in comparison with control. We have observed statistically significant increase of expression of a receptor CD95 in patients in comparison with control ($p<0,05$). For patients is characteristic the statistically significant increase of levels of spontaneous apoptosis of neutrophils ($p<0,05$) and lymphocytes. For their relatives is characteristic the tendency to an amplification of this process.

Conclusions: Neurotic disorders are accompanied by features of biological processes, the knowledge of these features will allow rendering assistance with great efficiency.

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P0323

The subclinical thyroid dysfunction: Risk factor for developing the first depressive episode

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Background: Depressive symptoms very often could be the only manifestation of the subclinical thyroid dysfunction (STD). Patients with the STD have the lifetime prevalence of depression approximately double that in the general population and display a lower response rate to antidepressant treatment and greater likelihood of responding to liothyronine augmentation.

Aims: To assess the stimulate-thyroid hormone (TSH) levels in the first depressive episode (FDE) sample and to evaluate the correlation between severity of depressive symptoms and the TSH levels.

Methods and instruments: The study included 27 patients with FDE (ICD X, F 32) treated in Psychiatric Hospital, University Hospital Zvezdara (Belgrade, Serbia). The exclusion criteria were presence of detected thyroid dysfunction, other psychiatric disorder, chronic somatic disease and/or using drugs. The TSH blood levels were measured. The 21-item Hamilton Rating Scale for Depression (HDRS, scored >17) was used in order to evaluate the severity of depression.

Results: Mean age in our sample was 48.6 years, with female predominance (55.6 %). We found TSH levels elevated (>5.5 mEg/L) in 11.1 % (all were females) and decreased (<0.4 mEg/L) in 11.1 % ($p<.05$). We found positive correlation between the HDRS scores and the TSH measures ($r=.445$, $p<.05$).

Conclusion: The STD is a risk factor for developing the FDE. The greater TSH levels imply the greater severity of the FDE. Each clinician should be aware of possible underlying the STD with its implications on diagnosis, treatment and prognosis of the FDE.

P0324

Hyperactivity of MB-COMT in schizophrenia and bipolar disease: Genetic, Epigenetic and Translation studies

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Background: Fuzzy genetic and environmental associations, variable phenotypes, and difficult to measure symptoms argue for comprehensive pathway studies on neuropsychiatric disease. Here, dopamine metabolism was dissected in the frontal cortex of ill individuals using a combination of measurement.

Methods: The activity of MB-COMT was assessed in 115 post-mortem frontal lobe samples as a function of genotype (VAL158-MET), promoter methylation status, and mRNA level using conventional methods. Also analyzed were the promoter methylation status and mRNA expression levels of DRD1, DRD2, DRD4 and RELN.

Results: MB-COMT promoter methylation was lower, and mRNA expression level higher in patients versus the control subjects ($p=0.02$). Further, hyper expression of MB-COMT was associated with hypo expression and hyper promoter methylation of DRD1, DRD2 and RELN. An enrichment of the overactive Val allele with MB-COMT hypomethylation in patients vs controls. For example, 87% vs 13%, ill vs well, respectively, were homozygous for Val/Val genotype and had an unmethylated MB-COMT promoter. In contrast, 18% of the samples with Met/Met genotype and a methylated MB-COMT promoter were among the SCZ/BD patients versus 82% in the controls ($p=0.001$). Preliminary studies on patients suggests, COMT antagonist are useful as adjunct therapeutics.

Conclusions: MB-COMT over-activity from the presence of an hyperactive allele (VAL), or promoter hypo-methylation may increases dopamine degradation in the frontal lobe, fine-tuning of

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down-stream gene expression, and provide a molecular basis for the shared symptoms of SCZ and BD. Hence, down regulation of COMT activity is a useful target for therapeutic intervention.

P0325

Biochemical pathways linked to schizophrenia

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Background: A paradox of genetic and environmental factors are linked to schizophrenia. For example, cases may be familial or spontaneous. Extensive studies have failed to identify a single gene or small group of genes that accounts for the majority of cases. The complex inheritance pattern suggests a strong environmental component even for those who are predisposed to disease. Environmental factors linked to disease occur early in development. Our goal is to identify common biochemical pathways affected by factors linked to schizophrenia.

Method: Our studies included DNA comparisons between monozygotic twins discordant for schizophrenia, computational evaluations of genomic positions of candidate genes using Genbank resources, and molecular genetic/epigenetic studies on dopamine metabolism in the synaptic cleft.

Results: Twins studies linked schizophrenia to somatic DNA instability ($p = <0.01$). Genomic studies linked schizophrenia to interspersed fragile site regions ($p = 0.001$) of the genome that are hot spots for mutation and epigenetics changes. The molecular studies on dopamine metabolism linked schizophrenia to aberrant genetic and epigenetic changes.

Conclusions: These, and other results, point to the confluence of DNA stability (i.e. DNA replication/repair) and epigenetic modification. DNA replication/repair and epigenetic modification are linked at both the macromolecular and biochemical level, require folate, methionine, and cobalamine, and compete for intermediates important for the cellular response to oxidative stress. Mutations in these pathways are linked to schizophrenia, as have deficits in the essential nutrients. The consequences of genetic and/or environmental perturbations to these pathways are complex because many essential pathways and processes are affected.

P0326

The distinct effect of valence and arousal on subjective and objective measurements of emotional regulation

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Background: This study investigated the duration of emotional responses to emotionally valenced stimuli and explored the relationship between objective [as assessed by skin conductance activity (SC)] and subjective measurements of emotional reactivity.

Methods: A sample of 100 healthy volunteers, stratified for age and gender, viewed 54 images from the International Affective Picture System equally split in positive, negative and neutral categories. Subjects pressed a button to view the next image when they judged that their response had subsided (time to emotional resolution, TTR) and then rated the intensity of their response on a scale from 1 to 9 (highest). The number of skin conductance responses (SCRs) and the maximum amplitude (μS) were also acquired and averaged for each condition (mean ± SD).

Results: Picture valence had a significant effect on all measures($p<0.001$). TTR (sec) was 11.01±6.57, 14.74±7.82 and 5.27±3.57 while arousal ratings were 5.65±1.80, 7.46±1.78 and 1.77± 0.87 for positive, negative and neutral images, respectively. Maximum amplitude was 0.19±0.14, 0.22±0.17 and 0.16±0.12 while SCRs were 23.76±14.06, 29.67±19.04 and 18.52±10.81 for positive, negative and neutral images, respectively. A correlation matrix of all measures showed significant association between TTR and SCRs ($p<0.001$) only.

Conclusions: TTR correlated with SCRs indicating that participants viewed the next image when their level of arousal subsided. However, the poor correlation between SC and arousal ratings suggests that when appraising the intensity of their responses, participants were accessing other aspects of emotional processing than arousal alone.

P0327

Ethane as a biomarker of schizophrenia

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Background and Aims: This study directly assessed whether there was a change in the level of exhaled ethane, which provides a non-invasive, quantitative, direct measure of n-3 lipid peroxidation, in the breath of patients with schizophrenia.

Methods: Samples of alveolar air were obtained from 20 subjects with schizophrenia and 23 age- and sex-matched healthy control subjects. The air samples were analyzed for ethane using mass spectrometry.

Results: The mean level of ethane in the schizophrenia sample (5.15 (S.E. 0.56) ppb) was significantly higher than that of the healthy controls (2.63 (S.E. 0.31) ppb; $p < 0.0005$). A further sub-analysis showed that nicotine dependence was unlikely to be the cause of this difference.

Conclusion: These results suggest that the measurement of exhaled ethane levels may offer a non-invasive direct marker of increased n-3 lipid peroxidation in schizophrenia.

P0328

Variations in the serotonin transporter genotype and potential endophenotypes for affective disorder

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Background: Variations in the serotonin transporter genotype and stressful life events may be associated with affective disorders.

Aim: Firstly, to investigate whether the distribution of the alleles of the serotonin transporter gene is associated with a genetic predisposition for bipolar and unipolar disorder. Secondly, to investigate whether variations in the serotonin transporter (5-HTTLPR) genotype

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