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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