

[Abstract:0665] Biological psychiatry and neuroscience**Blood microRNA dysregulation in schizophrenia**

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Objective: Schizophrenia is a devastating psychiatric disorder. Comprehensive research has been performed to identify biomarkers for this disease. Unfortunately we do not yet have a reliable biomarker for schizophrenia. MicroRNAs are 22-nucleotide-long RNA transcripts that regulate expression of genes at post-transcriptional level. To date, a limited number of studies has been done with peripheral tissue of schizophrenia patients. Here we demonstrate microRNA levels in plasma of schizophrenia patients.

Methods: Peripheral blood samples were collected from 16 schizophrenia patients and 16 healthy controls. Total RNA was extracted from Peripheral Whole Blood using Tri-Reagent (Sigma). Reverse transcriptase reactions contained 5 µl of extracted total RNA. Quantitative-Comparative CT (ΔΔCT) Real-time PCR was performed in an ABI Prism 7500 Real-Time PCR System (Applied Biosystems) using SDS 2.0.6 software.

Results: Schizophrenia patients showed significant upregulation of five microRNAs: miR9-5p (p=0.002), miR29a-3p (p<0.001), miR106b-5p (p=0.002), miR125a-3p(p<0.001) and miR125b-3p (p=0.018).

Conclusion: We found miR106b-5p upregulated in schizophrenia patients. Liu et al. compared 14 healthy controls with 16 depressed patients and found that miR106-5p and four other microRNAs were up regulated in the plasma of depressed patients. Additionally miR106b-5p was found to be downregulated in children with attention deficit / hyperactivity disorder(ADHD). In their unpublished study, Karababa et al. found miR106a-5p and miR106b-5p upregulated in manic patients. Perkins et al. found that miR-9-3p and miR-29a were downregulated and miR-106b was upregulated in the prefrontal cortex of individuals with schizophrenia. We believe combining our results with previous findings increases the likelihood the miR-106 family is disrupted in psychiatric disorders.

Limitations of our study are small sample size, cross sectional design, and limited number of microRNA types. Despite these limitations, our study contributes to revealing potential peripheral microRNA signatures and encourages researchers to focus on this field.

Keywords: schizophrenia, microRNA, blood

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[Abstract:0668] Biological psychiatry and neuroscience**Effect of subacute agomelatine treatment on diabetic neuropathic pain**

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Objective: Diabetic neuropathy is a syndrome that develops with Diabetes mellitus only, in the absence of other factors that can cause neuropathy; it affects different components of the nervous system and can involve all types of nerve fibers. The drug groups most widely preferred for treating neuropathic pain in clinics are anticonvulsants and antidepressants. Based on the ability of antidepressants in the treatment of neuropathic pain, we planned to investigate possible effect of agomelatine, a new antidepressant drug, on hyperglycemia, metabolic alterations and neuropathic pain observed in diabetic rats.

Methods: Male Sprague-Dawley rats of the same age (weight: 250-300 g) were used for the experiments. Diabetes was induced by a