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Major depression (MD) is a major public health problem worldwide. Nevertheless, its pathophysiology remains unclear and no specific biological marker has been associated to the disease so far.

To investigate whether such marker(s) exist(s), we collected peripheral blood mononuclear cells (PBMC) from a restricted cohort of MD inpatients at two different time points: at the time of major depressive episode with melancholic features and 8 weeks later (median score on the Hamilton Depression Rating Scale were 38 and 14.5 ($p < 0.05$), respectively). We also collected PBMC from age and sex-matched control individuals. Total RNAs were extracted and we studied the mRNA level alterations of 83 candidate genes by qRT-PCR using the TaqMan Low Density Array technology.

When compared to control samples, a significant down- and up-regulation of mRNA level was observed for numerous genes involved in MD. Remarkably, while the transcription level of these genes was heterogeneous within both controls and patients, 8 weeks after the major depressive episode, it was very homogeneous during the acute phase of the disease. Furthermore, some mRNA level variations were statistically correlated to the clinical severity of the symptomatology during the acute phase.

Thus, we conclude that some mRNA level alterations provide a good signature of the MD state.

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Major depression is very frequent in poorly regulated diabetes

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Background and Aims: It is often reported that patients with diabetes have increased risk of suffering from major depression (1). We wanted to study the frequency of depression in an special unit for diabetes at the University Hospital.

Methods: Fiftythree patients were recruited at this outpatient clinic. They were diagnosed using the structured clinical intervju MINI (2).

Results: Of the 53 patients with diabetes, 12 (23%) had an ongoing depressive episode. In addition 8 patients had suffered from previous episodes of depression. Thus 20(38%) had a lifetime history of major depression. Of the 12 patients with an ongoing depression, 58% had a first degree relative with psychiatric disorder, in contrast to 33% in those with no history of depression.

Conclusions: The propotion of depressive disorders in patients with poorly regulated diabetes, is very high. An astonishing finding is the very high frequency of first degree relatives with affective disorders.

It may be speculated that diabetes and depression have some pathophysiological features in common (3).

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Depression, sensitization and chaos in autonomic response: Implications for anticonvulsant treatment

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Background and Aims: According to recent findings stress experiences represent significant condition in pathophysiology of depression and influence abnormal development in the brain. Repeated stress and cognitive conflict also may determine limbic irritability and temporal-limbic epileptic-like activity. Because recent findings indicate that epilepsy and epileptiform processes are related to increased neural chaos, in the distinct contrast to normal brain activity, aim of this study is to find relationship between neural chaos in autonomic responses reflecting brain activity during stress activation and limbic irritability.

Method: For empirical examination of suggested hypothesis Stroop word-colour test, ECG recording, calculation of chaos indices i.e. largest Lyapunov exponents (LLEs) in nonlinear data analysis and psychometric measures of limbic irritability (LSCL-33) and depression (BDI-II) in 35 patients with unipolar depression and 35 healthy controls were used.

Result: Significant correlation $r=0.68$ ($p < 0.01$) between LLEs and LSCL-33 found in this study indicate that degree of chaos in autonomic responses during conflicting Stroop task reflected by LLEs is closely related to limbic irritability. Significant correlation $r=0.47$ ($p < 0.01$) also has been found between LLEs and symptoms of depression assessed by BDI-II. In the control group similar correlations have not been found.

Conclusion: The results are in agreement with findings that epileptiform activity represents typical form of chaotic organization. Because limbic irritability is linked to seizure-like processes in the temporo-limbic structures, the correlation between LSCL-33 and LLEs might represent useful finding for understanding of neurobiological mechanisms underlying stress-related sensitization and could be useful for future research regarding anticonvulsant treatment of depression.

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How to FACE[®] polydrug use: Pathways toward an integrative structured care model to facilitate adjustment of cognitions and emotions

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Background: Recent developments in the field of polydrug use along with alcoholism provide growing insights into how cognitive, affective, motivational and neurobiological pathways are altered in addictive persons. Few of these insights have as yet been implemented in everyday care.

Aim and Method: Framed within the multi-site FACE[®] program (Facilitating Adjustment of Cognitions and Emotions), this paper presents an integrative scientist-practitioner model that aims to translate the above insights into systematized multidisciplinary practice. The pathways from model to structured care are specified using a mixed-method design of bottom-up and top-down approach. Their