Aims To examine miRNA expression in brain of suicide victims and in plasma exosomes of suicidal individuals.
Methods microRNA expression was studied in prefrontal cortex of depressed suicide subjects and healthy normal controls. Role of microRNAs in synaptic plasticity was studied by examining total and synaptonerosomes. microRNA expression was also studied in plasma exosomes of depressed non-suicide and depressed suicide subjects and healthy normal controls.
Results We found a global down–regulation of miRNAs in depressed subjects (21 miRNAs significantly down-regulated). Many of them were synaptically enriched and encoded at nearby chromosomal loci, shared motifs within the 5'-seeds, and shared putative mRNA targets. In addition, we found a dramatic reorganization of microRNAs in a coordinated and cohesive fashion in depressed subjects. We also detected changes in miRNAs in plasma exosomes of depressed suicide subjects that corresponded to microRNA changes in prefrontal cortex.
Conclusion Our study provides critical evidence that microRNAs play a major role in suicide pathophysiology and that these microRNAs can be reliably used as peripheral biomarker.
Disclosure of interest The author declares that he has no competing interest.

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Symposium: Driving ability and psychotropic drugs

S138

Driving ability and psychotropic drugs: Introduction, epidemiology and general aspects

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Psychiatric illness, psychotropic drugs and driving ability. For most people driving is an important activity in daily life affecting physical, social, and economic well-being. Driving mobility is also an important part of one's self-identity that may influence health status. It could be demonstrated that 67% of psychiatric patients reported to have a valid driver's license and 77% of them referred to regularly use their cars. Closer inspection of data reveals, that road mobility is largely linked to psycho-functional status. In this context a significant issue is the impact of medical conditions and/or psychoactive medicines on road safety. Psychiatric patients, considered as a group, seem to have a moderately elevated risk of being involved in a road traffic accident with high-risk rates especially for organic mental disorders. With respect to pharmacotherapy, within psychotropic medicines an increased road traffic crash risk for benzodiazepines, z-hypnotics and some antidepressants has been well documented. The combination of psychoactive drugs additionally increases risk that is highest when combined with alcohol. However, therapeutic drug use may also lower risk, as the illness itself constitutes a higher risk of road traffic accidents. As many studies did not adequately control for confounding factors, results of epidemiological studies must be interpreted cautiously.
Disclosure of interest The author declares that he has no competing interest.

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S139

Antipsychotics and driving ability

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Driving a vehicle is an important everyday life skill associated to a psychiatric patient's autonomy and identity. Nevertheless, the right to drive is not a right at all, it is a privilege granted and regulated by rules and restrictions from the States that have also the duty to pull this privilege and deny the ability to legally drive in potentially unsafe drivers. The decision about for whom and when to forbid driving is a difficult matter of judgment that must remain a clinical and professional judgment within the medical encounter. Both antipsychotics as the psychiatric disorders target of these psychoactive drugs produce changes of psychomotor performance that can interfere with the ability to drive safely. Moreover, it is really hard to distinguish between the effects of the disease itself as opposed to the effects of the medication when studying the interaction between antipsychotics and driving ability. Previous results of our research in the field indicate that psychiatric patients who improved clinically after drug treatment also showed improvements in driving ability. So, adequate psychotropic treatment causes a positive effect on driving performance that outweighs the possible deleterious effect of medication. However, it remains essential to supply mental health professionals with new information, which is quantitatively and qualitatively valid, on the role of antipsychotics in driving ability. The purpose of the present lecture is to review research undertaken to-date on the effects of antipsychotic medications on driving ability. A search of various databases, including Medline, Embase and PsycInfo, will be conducted.
Disclosure of interest The author declares that he has no competing interest.

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S140

Antidepressants and driving ability

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Depression is a mental disorder that is likely to affect daily functions, including driving ability. However, driving performance of depressed patients remains poorly investigated. We will present 2 studies designed to assess driving performance of patients receiving long-term antidepressant treatment. The first study compared driving performance of untreated depressed patients, depressed patients receiving SSRI or SNRI treatment for 6–52 weeks and matched healthy controls. The second study compared driving performance of long-term users of sedative antidepressants to that of matched healthy controls. A standardized on-the-road driving test was used to assess standard deviation of lateral position (SDLP), a measure of weaving. In the first study, mean SDLP of untreated and treated patients were significantly higher as compared to SDLP of matched controls. Driving impairment in the treated group was significantly less as compared to the untreated group. SDLP was positively correlated to severity of depression across both groups of patients. In the second study, SDLP of patients receiving sedative antidepressants (e.g. mirtazapine) during 0,5–3 yrs was significantly higher as compared to matched controls. Driving performance of patients receiving sedative antidepressants for more than 3 yrs did not differ from matched controls. Severity of depression in these patients groups was low. It is concluded that symptoms of depression are a major cause of driving impairment. Reductions in severity of depression through antidepressant treatment reduce severity of driving impairment. Sedative antidepressants such as mirtazapine however can still induce driving impairment in patients with remission for up to 3 yrs of use.