

have a protective value or may be risk factors and both concur in determining the individual's vulnerability to suicidal behaviour. With the aim of evaluating impact of some psychopathological dimensions on suicidal behaviour, we conducted a study on a sample of depressed psychiatric patients, comparing those with a history of suicide attempt with those without suicidal tendencies. 170 adult outpatients consecutively enrolled, were the study subjects (mean age:  $40.31 \pm 12.27$ ; M:F 72/98). 108 patients had a lifetime suicide attempt in psychiatric history. Among suicide attempters, a significantly higher number of subjects were female sex, not married, unemployed and with a high educational status. Results also showed that patients with a suicide attempt had higher Childhood Trauma Questionnaire (CTQ) scores for emotional abuse, physical abuse and sexual abuse, and Brown Goodwin Life History of Aggression (BGLHA) scores in comparison to the control group and lower scores on the resilience scale. In order to evaluate the independent contribution of the selected measures, all risk factors were then entered in a logistic regression model, using the lifetime presence of a suicide attempt as the dependent variable.

### S30.03

The link between the serotonin system and suicidality

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Abnormalities in the serotonergic system have been associated with suicidality, aggression, and impulsivity. Exactly what role serotonin plays in the initiation, modulation, maintenance, or regulation of such behaviours remains under study. However, recent data suggest that serotonin is involved along the pathway from genetic predisposition and environmental stimulus to expression of psychiatric disorders and suicidal behaviour.

On the other hand, it has been suggested that the seemingly "robust" association of low CSF-5HIAA concentration with suicidality and aggression is rather weak, and are likely to represent somewhat premature translations of findings from studies that have flaws in methodology.

Finally, we review the controversial role of the selective serotonin reuptake inhibitors (SSRI) on suicidality, as they have been suggested: i) to decrease suicide rates in the population, and ii) to increase suicide rates in some individuals in early treatment.

### S30.04

Decision making as an endophenotype in suicidal behaviour

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We recently reported that decision-making impairment may be a neuropsychological trait of vulnerability to suicidal behavior (SB), that may reflect a serotonergic dysfunction in the orbitofrontal cortex.

We used the Iowa Gambling Task to assess decision-making in euthymic suicide attempters and controls with a history of affective disorders but no history of SB, and healthy controls. We explored 1) the link between decision-making deficit and relevant clinical variables; 2) the role of serotonin related polymorphisms relevant to SB in decision-making processes; 3) the link between life events on the last 12 months and decision-making.

1) In a sample of more than 300 psychiatric patients, we found that a decision making impairment was associated with the

vulnerability to SB independently of the psychiatric diagnoses. Decision making was negatively correlated with emotional dysregulation, but not with impulsivity. No association was found between decision-making performance for suicidal lethality, intent, ideation, number of suicide attempts, age at first suicide attempt. 2) Suicide attempters carrying the 5HTTLPR-ss or the TPH1-AA genotypes, associated with SB, expressed worse learning abilities during the decision making task. 3) Adult life events and decision-making were correlated in suicide attempters.

We confirm that impaired decision making, possibly due to emotional dysfunction, may be a neuropsychological risk factor for SB independently of psychiatric disorders. In suicide attempters, the influence of genetic factors may partly be achieved through their modulation of the learning processes of decision-making, that may constitute a candidate endophenotype in SB.

### S30.05

Genetic association studies of aggression-related genes

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Suicidal behavior is a major health problem worldwide. The risk of suicide-related behavior is supposed to be determined by a complex interplay of sociocultural factors, traumatic life experiences, psychiatric history, personality traits, and genetic vulnerability. This view is supported by adoption and family studies indicating that suicidal acts have a genetic contribution that is independent of the heritability of Axis I and II psychopathology. Neurobiological studies have shown that serotonergic dysfunction is implicated in suicidal behaviors. Additionally aggression-related traits are mediated by the serotonergic system. Since both, aggression-related traits and serotonergic activity are partially heritable and correlate inversely, variations in genes of the serotonergic system might then, to some extent, account for variations in aggression-related behavior. Thus, we also investigated the relationship between serotonergic genes and anger, as a subtype of aggression-related behavior.

For that reasons we have initiated a large scale case control genetic association study which comprises of 250 suicide attempters and 1900 healthy volunteers and investigated the role of a comprehensive set of serotonergic candidate genes in this behavior. Additionally we conducted a large-scale gene expression analysis using cDNA-microarrays to identify new candidate-genes for suicide. We found several genes to be differentially expressed in the orbitofrontal cortex of suicide completers. Cross-validation experiments using quantitative RT-PCR validated 9 genes so far. These genes were genotyped as well to look for associations with suicide-, anger- and aggression-related behavior and also these results will be presented.

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## S31. Symposium: 25 YEARS OF EXPERIENCES WITH VARIOUS TYPES OF ANTIDEPRESSANTS: THE DANISH UNIVERSITY ANTIDEPRESSANT GROUP

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### S31.01

SSRIs versus tricyclics

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