

## AS18-02 - GENETICS AND EPIGENETIC EFFECTS ON SUICIDAL BEHAVIOUR

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The most prevalent mental disorders among suicide victims are depressive syndromes. Beside depression, research relates a wide range of psychosocial characteristics and stressors to suicide behaviour. Increasing amount of data about suicidal behaviour indicates that suicide is familial and that familial transmission of suicidal behaviour cannot be explained by the transmission of psychiatric disorder alone. Genetic and epigenetic effects are involved on suicidal behaviour beside environmental factors. Aberrant genes regulating serotonergic, dopaminergic and noradrenergic systems could increase suicidal risk. Associations between catechol-O-methyltransferase (COMT) and tryptophan hydroxylase 2 (TPH2) polymorphisms, the rate-limiting enzyme for brain serotonin, and completed suicide were observed in suicide victims in populations with high suicide risk. On the other hand, it is also known that brain-derived neurotrophic factor (BDNF) influences a variety of neural processes during the development like neurogenesis, neuronal survival, and maturation of neural development pathways and it seems that BDNF plays a central role in neurobiology of suicidal behaviour and depression. The Met-carrying genotypes and Met allele seems to be connected with increased risk for suicide. The dynamic nature of the epigenetic mechanisms could be involved in the predominant episodic clinical picture of depression. The potential reversibility of epigenetic modifications could be important for management of patients with bipolar disorder offering the opportunity to influence aberrant gene expression by modifying environmental factors with the methods such as psychotherapy.