

LOW VASCULAR ENDOTHELIAL GROWTH FACTOR AND INTERLEUKIN-8 IN CEREBROSPINAL FLUID OF SUICIDE ATTEMPTERS

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Immune system dysregulation influencing pathways for cytokine activity and growth factor expression is implicated in the pathophysiology of several neuropsychiatric disorders.

In this study we analysed cerebrospinal fluid (CSF) cytokines and growth factors with an ultra sensitive immunoassay system in 43 medication free suicide attempters and 20 healthy male volunteers.

CSF Vascular endothelial growth factor (VEGF) and CSF interleukin-8 (IL-8) levels were significantly lower in suicide attempters compared to healthy controls. Further, CSF VEGF showed a significant negative correlation with depression severity as measured with MADRS.

Low CSF levels of VEGF may represent a lack of trophic support to neurons and downregulation of neurogenesis in important areas such as the hippocampus reflecting more severe depressive states. IL-8 has also been reported as important in neuroprotection and is commonly known for its chemokine activity in the innate immune response.

The results support a role for a dysregulation in immune system activation in the pathophysiology of depression and suicidal behaviour. Innate immunity may have a critical role in these mechanisms.