

Euro Health Care and Fitness Summit

September 01-03, 2015 Valencia, Spain

The role of thalamic size related to suicide risk in schizophrenia

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Individuals with schizophrenia are at a high risk for suicidal behavior. Suicide is a major cause of death in schizophrenia. The rate of suicide attempts in this group of individuals with schizophrenia is about 10-15%. Various risk factors were reported to be implicated in suicide in schizophrenia. Suicide risk in schizophrenia is mainly related to affective symptoms, history of a suicide attempt and number of psychiatric admissions. Schizophrenia adversely affect individual and causes to disturbance the emotions, thoughts, perceptions and behavior of an individual. The disturbance of these functions in schizophrenia, together with evidence from post-mortem and neuro-imaging studies of volume reduction and functional abnormalities, has implicated the thalamus as a nexus of defective circuits in schizophrenia. Structural magnetic resonance imaging (MRI) data have provided much evidence in support of our current view that schizophrenia is a brain disorder with altered brain structure, and consequently involving more than a simple disturbance in neurotransmission. Patients with schizophrenia had significantly smaller thalamic areas at more ventral levels. Thalamic size was positively associated with frontal lobe and temporal lobe size. The effects were most marked in the patients with poorer clinical outcome. A systematic review conducted by Richard-Devantoy et al. (2014), reported that patients with a history of suicidal acts showed volumetric reductions in left orbito-frontal and superior temporal cortices, while right amygdala volume was increased, though, these findings have rarely been replicated. Spoletini et al. (2001) suggest that right amygdala hypertrophy may be a risk factor for suicide attempts in patients with schizophrenia and this could be relevant for suicide prevention. Brain alterations associated with schizophrenia may predispose some patients to a higher risk of suicide in particular circumstances. The relationship of clinical symptoms to MRI findings must review, as is the growing evidence suggesting structural abnormalities in schizophrenia. However no firm conclusions can be drawn and further investigations are necessary. Identification of risk factors for suicide in individuals diagnosed with schizophrenia is imperative to improve clinical management and develop strategies to reduce the incidence of suicide in schizophrenia.

Biography

Ozlem Kastan obtained her PhD and MS in Anatomy. She is a Lecturer and Doctor in the department of Child Health and Disease Nursing in the Faculty of Nursing at Akdeniz University in Turkey. She has completed Bachelors' and Masters' degrees in Medical School Anatomy. She has completed her PhD from Medical School Anatomy of Gazi University. Her research has been focusing on gross anatomy, blood vessels and nerves anatomy. She is experienced as Academic Staff Member at the Medical School and Nursing Faculty who taught at undergraduate levels.

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