Toward Early Diagnosis and Treatment of Schizophrenia

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Schizophrenia is a major psychiatric illness that typically develops in late adolescence or early adulthood and affects approximately one per 120 persons. Affected individuals frequently bear a burden in their social life in the chronic phase of illness. It is one of the most important tasks in psychiatry to elucidate the pathogenesis of schizophrenia and develop a more effective treatment. It is proposed that characteristic psychotic symptoms arise in people with vulnerabilities through experiencing various stresses, although essential features of the vulnerabilities and the interactions between vulnerabilities and stress remain elusive. Recent advances in brain imaging techniques have revealed that patients with schizophrenia have subtle but significant structural and functional abnormalities in the brain. We have employed magnetic resonance imaging (MRI) to explore morphologic alterations relating to the vulnerability to and development of schizophrenia and utility of MRI as an aid in the clinical diagnosis of schizophrenia. Further research to clarify genetic basis of the biological vulnerability and brain mechanisms of the symptom development would be important. A new stream in the treatment of schizophrenia is the promotion of early intervention, purposes of which are ultimately to improve the long-term outcome as well as possibly to prevent the symptom onset. Realizing a more certain early diagnosis and a more effective early treatment of schizophrenia would require advances in diagnostic techniques that can detect subtle changes *in vivo* beyond inter- and intra-subject variability and developing newly-designed drug treatments. Promotion of multifaceted researches into schizophrenia beyond the field of psychiatry would be meaningful.