AETIOLOGY OF SCHIZOPHRENIA

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AETIOLOGY

The aetiology of schizophrenia is currently unknown. However, several theories have been propounded; these include the following:

Biological Theories

Genetic Hypothesis

About 8-10% of first degree relatives (and 3% of second degree relatives and 2% of third degree relatives) of patients with schizophrenia can present with schizophrenia, as compared with the 0.5-1% prevalence rate in general population. The concordance rate for monozygotic twins is 46% and for dizygotic twins is 14%. If one parent has schizophrenia, the chances of the child developing schizophrenia are 10-12%. However, if both parents have schizophrenia, chances of the child developing schizophrenia increase to about 40%. Therefore, genetic factors are very important in making an individual vulnerable to schizophrenia. However, environmental factors and stress are probably also important in precipitating an episode in several individuals.

Biochemical Theories

Schizophrenia is presently thought to be probably due to a functional increase of dopamine at the postsynaptic receptor, though other neuro transmitters such as serotonin (especially 5-HT2 receptors), GABA and acetylcholine are also presumably involved.

Brain Imaging

Cranial CT Scan, MRI Scan, and postmortem studies show enlarged ventricles (not amounting to hydrocephalus) and mild cortical atrophy (with an overall reduction in brain volume and cortical grey matter by 5-10%) in some patients of schizophrenia. PET (positron emission tomography) scan shows hypofrontality and decreased glucose utilisation in the dominant temporal lobe.

Psychological Theories

Stress

Increased number of stressful life events before the onset or relapse probably has a triggering effect on the onset of schizophrenia, in a genetically vulnerable person (*Stress-Vulnerability Hypothesis*) According to this hypo thesis**, higher the genetic vulnerability in a person, lesser the environmental stress needed to precipitate a relapse**. Increased expressed emotions (EE; such as hostility, critical comments, emotional over-involvement) of 'significant others' in the family can lead to an early relapse.

Family Theories

Several theories have been propounded in the past but are currently of doubtful value. These include **schizophrenogenic mothers', lack of 'real' parents, dependency on mother, anxious mother, parental marital schism or skew**, double-bind theory, communication deviance, and pseudomutuality. Some of these theories were unfortunately responsible for arousing a sense of unnecessary guilt in parents for causation of schizophrenia in their children.

Information Processing Hypothesis

Disturbances in attention, inability to maintain a set, and inability to assimilate and integrate percepts are common findings in schizophrenia. Patients with schizophrenia may at first be overly attentive to stimuli but later may reduce or exclude attention to stimuli. There is possibly a breakdown in the internal representation of mental events.

Psychoanalytical Theories

According to Freud, there is regression to the preoral (and oral) stage of psychosexual development, with the use of defense mecha nisms of *denial*, *projection*, and *reaction formation* . There is a loss of ego-boundaries (des cri bed by Federn), with a loss of touch with reality.

Sociocultural Theories

Although the prevalence of schizophrenia is quite uniform across cultures, it was found to be more common in lower socioeconomic status in some studies. This has now been explained due to a 'downward social drift', which is a result of having developed schizophrenia rather than causing it.

Higher rates of schizophrenia have been found among some migrants, not only among the first generation migrants but also among the second generation.

Thank you