

A Family Based Association Study of Genes in Bipolar Mood Disorder in An Egyptian Sample Using TDT Design

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The aim of this work was to test the hypothesis that bipolar disorder is linked to tyrosine hydroxylase gene, tryptophan hydroxylase gene, dopamine transporter gene and serotonin transporter gene and whether these genetic loci differ according to clinical presentation.

The study includes 116 patients (72 males, 44 females) and their parents. The patients are subjected to the Mania Scale (Beck et al., 1978), and Hamilton Rating Scale for Depression (HAM-D) (Hamilton 1960), General Health Questionnaire (GHQ) (Arabic version) (Okasha A., 1988). 5-7ml of blood is taken from the patients and their parents by venipuncture.

Results: there's high association of dopamine transporter gene variants with bipolar disorder. The B and D alleles of tyrosine hydroxylase gene confer protection and susceptibility to bipolar disorder respectively. No association between and tryptophan hydroxylase gene and bipolar disorder. There is no correlation between clinical profile and positive genetic association in this sample.

Dopamine transporter plays a major effect in the susceptibility for bipolar disorder. Furthermore, it is evident that the neurotransmitters norepinephrine and dopamine are implicated in the etiology of bipolar disorder.