Serotonin and the biochemical genetics of alcoholism: lessons from studies of attention deficit hyperactivity disorder (ADHD) and Tourette syndrome.

Comings DE.

Author information

Abstract

Studies of children with ADHD and Tourette syndrome, and their families, show that both the patients and their relatives are at increased risk for alcoholism, and other behavioral disorders. Defective serotonin metabolism has been implicated in all of these disorders. Platelet serotonin and blood tryptophan levels are low in the patients and both parents. Analysis of pedigrees suggest that a gene or genes capable of producing a pleiotrophic spectrum of disorders are inherited from both parents (recessive inheritance), but affected relatives can express some symptoms (dominant inheritance). This suggests an intermediate semirecessive-semidominant inheritance of a common gene affecting serotonin metabolism for ADHD, Tourette syndrome, alcoholism and related disorders. Tryptophan 2,3 dioxygenase (TDO2) is suggested as a possible candidate gene.