

Oral presentation

Neurobiological correlates of aggression

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Environmental and psychological factors influencing aggressive behavior have been studied for several centuries. However, only in the past three decades neurobiologic factors that modulate impulsive aggression have been examined. Several lines of evidence establish a relevance of central neurotransmission to aggressive and impulsive behavior. For example, evidence coming from extensive research in humans and in animals, points to a strong relationship between serotonergic dysfunction and aggression. Increased catecholaminergic activity also appears to play a role in the manifestation of aggressive behaviour. Other neurobiologic systems like arginine or vasopressin may influence impulsive aggression. There have been few studies indicating that interactions between neurobiologic systems such as testosterone and serotonin may have a significant effect on aggressive and violent behavior. Today, it becomes clear that genetic factors predisposing to aggressive and violent behavior do exist. Family, adoption and twin studies suggest that manifestation of aggression requires the presence of both genetic and environmental factors. Genetic research on violence provides promises and continues to examine specific molecular genetic markers and their association phenotypes.