Abstract

Biogenic amine metabolism in the central nervous system of 9 children with Tourette syndrome was evaluated by quantitation of their metabolites in cerebrospinal fluid by a gas chromatographic/mass spectrometric method. Homovanillic acid (HVA), 5-hydroxyindoleacetic acid (5-HIAA), and 3-methoxy-4-hydroxyphenylethylene glycol (MHPG) were measured in CSF before and after oral administration of probenecid. Dopamine metabolism appeared defective, as both baseline and accumulated levels of HVA after probenecid were decreased. Serotonin metabolism also appeared defective in some patients with low baseline and low accumulated levels of 5-HIAA after probenecid. Taken together with other clinical features of this disease, the results suggest an underlying disorder of dopamine and serotonin metabolism in Tourette syndrome.

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