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Behavioral, neuroendocrine, and biochemical effects of 5-hydroxytryptophan administration in panic disorder.

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Abstract

L-5-Hydroxytryptophan (5HTP) was administered to 20 patients suffering from panic disorder and to 20 healthy controls. Subjects received 60 mg 5HTP in 300 ml saline solution. Before, during, and up to 2 hours after 5HTP administration, symptoms of anxiety and depression were assessed. In addition, plasma 5HTP, 3-methoxy-4-hydroxyethylglycol (MHPG), cortisol, beta-endorphin, and melatonin levels were measured at several time points, and the kinetics of 5-hydroxytryptamine (5HT) in blood platelets were measured. During and after the infusion of 5HTP, none of the patients showed an increase in anxiety or depressive symptoms, despite the presence of severe side effects. Some patients even experienced the 5HTP infusion as a relief. In contrast to the patients, nine control subjects reported depressed mood, although no increases in anxiety were noted. In both patients and controls, the 5HTP infusion led to substantial increases in plasma cortisol and beta-endorphin levels, while the plasma MHPG level was unchanged. Plasma melatonin increased significantly after 5HTP administration, suggesting that increasing 5HT availability in man might affect melatonin synthesis. The results of this study are at odds with the hypothesis that there is a supersensitivity of 5HT₂ receptors in panic disorder.

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