Neurobiology of Rhinitis

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In their survey of psychosomatic aspects of otorhinolaryngology, Lamparter and Schmidt [1] report that some patients with rhinitis experience even the physiologic nasal cycle as bothering (unilaterally 'obstructed' nose). The neurobiology is suggested by unilateral naris closure leading to a reduction of dopa-mine (DA) [2] lateralized to the right hemisphere [3]. It is also suggested by left nostril breathing improving nonverbal performance [4]. This hypothesis is supported by optimal response organization at intermediate DA tone in a medial-frontal-striatal activation system [3] and by operant conditioning of the activity of a CA1 pyramidal cell in a slice of dorsal hippocampus with local injections of DA. The DA reinforcement function showed a sharp peak at 1 mJl¹ and fell off abruptly when this optimal concentration was either halved or doubled [5]. It is also supported by studies linking DA to affect, mood, induction of breathing, vasospasm, and wakefulness manifested by a reduction of reaction time and gap frequency [3, 6]. The fact that delay-dependent speeding of reaction time, indicating motor readiness, is abolished by depletion of DA, suggests monitoring speech hesitation and switching pauses [3] in the evaluation and treatment of cases such as a 9-year-old girl who showed a coincidence of sinusitis and modified behavior characterized by withdrawal, depression, fear; these symptoms disappeared together with the sinusitis [1]. This method is supported by profound effects on angina pectoris by attention to breathing and intervening pauses [4]. It is also supported by the blood pressure lowering effect of longer, less recurrent pauses of 1+s, 1.50 ± 0.33 s ($x \pm SD$) and by the association of pauses of 2+ s with prearticulatory repair [7] and competitive and courtship activity [18]. These findings tend to confirm powerful isomorphisms between mind and body and the existence of deep and lawful mental structures governing human cognitive and emotional functioning reflecting properties of neuronal activity and firing [9].

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0624-0212\$8.00/0