

The vagal system as a mediator of the therapeutic effects of bariatric surgery

Obesity and type-2 diabetes are chronic diseases that respond with difficulty to drug therapies and lifestyle changes. At the origin of this resistance to treatment, an alteration in the functioning of brain sectors in charge of the reward system and of the energy homeostasis, due to a modification of synaptic transmission has been hypothesized. Overfeeding, presumably beginning as a psychological compulsive search for a rewarding stimulus turns into food addiction due to the adaptation of synapses in the reward circuit in response to the increased intensity of the inputs (synaptic plasticity). The same would apply to the brain areas responsible for the maintenance of energy homeostasis. The afferent vagal paths transmit to the brain information about ingested food from the digestive tract. Their intermediate station in the brainstem, the vagal nucleus of the

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