



Alteration of Dopamine Receptors as a Possible Etiology in Burning Mouth Syndrome

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Abstract

Burning mouth syndrome continues to be a diagnostic and therapeutic challenge today. New horizons in etiology and management have opened the door for a new therapeutic option that we will mention in this article.

Keywords: Dopamine Receptors; Syndrome; Etiology; Oral Mucosa

Abbreviation: PET: Positron Emission Tomography.

Development

Burning mouth syndrome is characterized by chronic pain in the oral cavity, without clinical lesions on physical examination and with normal laboratory findings, which is why it is called primary or idiopathic [1]. Due to the lack of clarity in the pathophysiology, there is no effective treatment to date, which causes anxiety, depression, sleep disturbances in patients and significantly affects the quality of life [2].

It more frequently affects the female sex, and the average age is around 50 years.

It is estimated that the prevalence ranges between 3-4% of the population [3].

There is a series of diagnostic criteria proposed by Scala et al in 2003 [4]:

- Burning sensation in the oral mucosa daily and constantly
- Burning sensation for at least 4 to 6 months
- Pain of constant intensity or that may increase during the day
- Pain present without exacerbation, or that improves

during the intake of food and liquids

- No interference during sleep

Additional criteria

- Dysgeusia (altered taste perception), xerostomia (feeling of dry mouth)
- Sensory alterations
- Psychopathological or mood changes

Within the etiology it is believed to be multifactorial, based mainly on three alterations: psychological, hormonal and nervous system disorders [5]. Recently, theories of neuropathy are gaining strength: peripheral neuropathy with fine fiber dysfunction, possible significant subclinical central trigeminal neuropathy, and alteration in inhibitory dopaminergic activity [6-9].

This last area is where alterations in dopamine receptors have been proposed with good results after the corresponding medication.

Du Q and colleagues [6], published a series of 8 patients with the pathology and with a good response to pramipexole hydrochloride tablets, with a dose between 0.25 mg to 0.5

mg per day, without reports of adverse effects and with remission of symptoms on average at 8 weeks.

Neurotransmitter positron emission tomography (PET) study has demonstrated the hypofunction of the nigrostriatal dopaminergic system in these patients that prompts the hypothesis of reduced efficacy of endogenous pain inhibitory control in the brain dopamine-opioid system [7].

Cárcamo Fonfría and collaborators [8], published a series of 6 cases, treated with pramipexole, with a clear improvement in symptoms and 4-year follow-up.

Discussion

Burning mouth syndrome continues to be a diagnostic and therapeutic challenge, significantly affecting the quality of life of affected patients, which is why advances in the knowledge of the pathophysiology of the disease provide new treatments that are being studied.

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