Case Report

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Antidepressant-induced burning mouth syndrome: A case report

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Abstract

Burning mouth syndrome is a chronic condition characterized by oral pain in the absence of intraoral clinical signs. The pathogenesis and etiology of burning mouth syndrome are not fully understood. Both men and women of all ages are at risk of developing this syndrome, but women are at an even higher risk. The management of burning mouth syndrome usually consists of the use of antidepressants. In this case report, we present a case of a 75-year-old lady who presented to the psychiatric clinic for management of her depressive symptoms. She was prescribed escitalopram and her dose was later increased. She then started experiencing a burning sensation in her mouth. She was seen by dental, medical, and psychological specialties regarding her symptoms. After careful historical and clinical evaluation, she was finally diagnosed with antidepressant-induced burning mouth syndrome. Antidepressant-induced burning mouth syndrome is a rare but very important condition to recognize. It has a huge effect on patients' quality of life. The management of patients with antidepressant-induced burning mouth syndrome needs the involvement of a multidisciplinary team. Further high-quality studies are needed to help healthcare professionals better approach such patients.

Keywords

SSRI, antidepressants, burning mouth syndrome, BMS, escitalopram

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Introduction

Burning mouth syndrome (BMS) is a chronic condition where despite the absence of intraoral clinical signs, the affected individual will suffer from oral pain.[1] The pain is usually reported as burning in nature and is mostly reported to originate from the tongue followed by the palates, gingivae, lower lip, and the pharynx.[2] The pain can be generalized or localized to one or more areas of the oral cavity, and has to be occurring daily for 2 h or more, and must last for 3 months or more. The pathogenesis and etiology of BMS are not fully understood yet. It is hypothesized that the pain or the burning sensation could be due to systemic or psychological factors.[3] It has also been proposed that the nature of BMS is neuropathic, which means that it results from dopaminergic system dysfunction or from a peripheral nerve damage.[3] Both men and women of all ages are at risk of developing this syndrome. However, studies have shown that women are at an even higher risk to develop it. Studies show that middle-aged and postmenopausal women have the highest risk for developing this syndrome.[4] According to a study, BMS is seen in 1–4% of postmenopausal women during their follow-up appointments. However, BMS can also affect premenopausal women.[5]

A large-scale population-based study that recruited 1427 randomly selected individuals from both genders showed that out of the selected 1427, 53 people were diagnosed with BMS. They showed that 3.7% of men and 5.5% of women were found to have BMS. In males, no one under the age of 40 was found to have BMS, while 0.7 of those with BMS were between the age of 40 and 49. The prevalence increased to 3.9% in men who were older than 49 years. The prevalence of BMS was found to be higher in women who had a higher prevalence at a younger age group compared to men. It was found that 0.6% of those female patients with BMS were between the age of 30 and 39. The prevalence was higher in the older female age group reaching 12.2% with BMS.[1]

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A more recent study showed that the prevalence of BMS is estimated to range between 0.1 and 3.9%. It explained that the prevalence was higher in postmenopausal women between the age of 50 and 70.[6]

The main aim of management is to identify and confirm the problem. Another important goal of management is to confirm the source of the symptoms as well as to rule out all other possible causes. The pharmacological management of BMS normally consist of clonazepam, tricyclic antidepressants, and gabapentin.[7] This sometimes poses a dilemma, as in this case report we present: a case of patient with an antidepressant-induced BMS. To our knowledge, there is only one case report published on this topic. In this case report we describe a case of a female patient with depression who is believed to have developed BMS as a side effect of her antidepressant treatment.

Case presentation

A 75-year-old woman with well-managed long-standing diabetes and hypertension as well as major depressive disorder presented to the psychiatric clinic for follow-up. She had been known to have major depressive disorder for 5 years and was on escitalopram for over a year and a half. She was initially started on 10 mg and her depressive symptoms improved. She was tolerating it well and reported no side effects. During her follow-up 4 months ago, she was noticed to have a relapse in her depressive symptoms and as a result her escitalopram dose was increased to 20 mg. She then started to have a burning sensation in her oral cavity. The pain was described as happening all over her oral cavity and was reaching her throat when she swallowed food. The pain was described to be severe and worsened when she ate. It was bothering her to the point that she started to avoid eating and started losing weight. Her pain was severe but was not affecting her sleep quality as she had no issues with her sleep. The patient was initially evaluated to rule out organic causes to her symptoms. At the time of her follow-up with psychiatry, patient's detailed medical history was taken which showed neither the mention of any type of anemia nor the symptoms suggestive of that. She was also seen initially by her primary-care physician who did not give her the diagnosis of anemia. Furthermore, as for biological testing for anemia, patients had laboratory testing that came back normal which indicates that she was not anemic at the time of her symptoms and diagnosis of BMS. She was then seen by neurology and investigations were done including a head computed tomography scan. There were no neurological abnormalities that could explain her symptoms. She was also evaluated by otolaryngologist who found no local cause. Finally, the patient was seen by her dentist. There were no intraoral lesions nor any other explanation for her burning symptoms from their point of view. After a thorough study of history, clinical evaluation, and ruling out of all other possible causes, the patient was finally given the diagnosis of BMS. The diagnosis of antidepressant-induced BMS is justified by the use of the Naranjo Adverse Drug Reaction Probability Scale. The Naranjo Adverse Drug Reaction Probability Scale is a questionnaire that assigns probability scores to determine the likelihood of an adverse drug reaction. The scores range from definite, probable, possible, to doubtful.[8] The patient scored 5 on this scale. It meant that the adverse drug reaction is probable. The patient was then seen for a follow-up by her psychiatrist and her dose of escitalopram was finally lowered back to 10 mg after she suffered from the burning sensation for a total duration of 4 months. Finally, the patient reported great improvement regarding the burning sensation while she was still in remission in regards to her depressive symptoms. She will continue to be followed up regularly for the evaluation of both her BMS symptoms and depressive symptoms.

Discussion

BMS is defined as an ongoing burning sensation of one or multiple parts of the intraoral cavity without the presence of specific lesions to cause the sensation.[2] This is one of the most difficult complaints that a patient might have and can have a very negative effect on a person's quality of life.[2] BMS is known to be caused by multiple reasons and has been historically treated with multiple modalities including antidepressant medications.[2] This was not the case for the patient we present here. This patient's BMS is believed to be caused by her antidepressant medication, specifically escitalopram. This was very difficult to diagnose as there are not many studies on this matter. In fact, to our knowledge there was only one previously published case report with a patient who was diagnosed with antidepressant BMS. The case involved a 55-year-old female patient who suffered from a burning sensation of her oral mucosa. This patient was discovered to be diagnosed with depression and was treated with fluoxetine. She was doing well with no side effects until her fluoxetine dose was increased. After careful history, it was clear that her burning sensation started after increase of her fluoxetine dosage without any other possible causes.[9] Unlike our patient, this case shows that the antidepressant used was fluoxetine while our patient was prescribed escitalopram. However, what was surprisingly similar is that the patients' symptoms occurred after increasing the dosage and not upon drug initiation. Both patients were female, and of older age.

The mechanism by which antidepressants cause BMS is not fully understood. However, some researchers have suggested that antidepressants may cause pain by activating the pain-inhibitory system that descends from the brainstem to the dorsal horn of the spinal cord. This activation occurs through inhibition of the serotonin transporter, which is a phenomenon known as serotonin paradox.[10]

Several medications have been shown to cause BMS, including angiotensin-converting enzyme inhibitors, some antiviral and some antibiotic medications.[11] It is also shown in the literature that drug-induced BMS is usually dose dependent.[9] This was the case with our patient and the previously mentioned case of antidepressant-induced BMS. They both had reported that their symptoms occurred only after the dosage was increased and not upon initiation.

The management of patients with antidepressant-induced BMS should ideally consist of a multidisciplinary team including dental, medical, and psychological specialties, and should start with diagnosing and then treating. BMS is an important condition that needs to be recognized and treated properly as it impacts quality of life.

Conclusion

This rare case of antidepressant-induced BMS is intended to aid in helping identify, diagnose, and treat antidepressant-induced BMS. Antidepressant-induced BMS is found to be dose dependent and is managed by reducing or switching to a different antidepressant based on patient needs. Further high-quality studies are required to help healthcare professionals better approach such patients.

Author contributions

The authors confirm contribution to the paper as follows: A. A. recognized the diagnosis, wrote the largest share of the report, and approved the final manuscript. W. K. who is the attending physician, confirmed the possibility of the diagnosis and had a major contribution in writing and editing the manuscript. A. A. contributed to writing a good amount of the manuscript and reviewed it. All authors read and approved the final manuscript.

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Ethical approval

Our institution does not require ethical approval for reporting individual cases or case series.

Informed consent

Written informed consent was obtained from the patient(s) for their anonymized information to be published in this article.

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