

Letters to the Editor

Extensive oral mucosal hyperkeratosis caused by over-the-counter long lasting snoring relief agent

We describe an unwanted side-effect that was probably caused by the over-the-counter, long- lasting drug for the relief of snoring Snoreeze (Passion For Life Healthcare Ltd., Epsom, UK). It is available as a throat spray, pastilles, or strips that are put on the tongue and pressed on to the palate to reduce snoring. According to the manufacturer it targets the main cause of snoring by its dual action, time-based, formulation, and lubricates the soft tissues at the back of the throat to provide effective relief from snoring.

A 62-year-old woman was referred with extensive, white, hyperkeratotic lesions on the right-hand side of the hard and soft palate, palatal arch, and right retromolar area (Fig. 1). She was a non-smoker and did not drink alcohol, and her history excluded all potential causes of mucosal hyperkeratosis. She was otherwise healthy. A biopsy specimen was taken, which on histological examination showed hyperkeratosis without dysplasia. She had used Snoreeze strips and spray for 3 years. Snoreeze consists of water, glycerol, pectin, peppermint oil, cellulose, sorbitan stearate, polysorbate 60, tocopheryl acetate, aspartame, preservatives (potassium sorbate and sodium benzoate), stabiliser (xanthan gum – glucose, mannose, and glucuronic acid), acesulfame K, hyaluronic acid, guar gum, citric acid, and blue FCF (E133).

It is not easy to work out which of these ingredients led to the mucosal irritation, as none have previously been associated with it, but it is well known that various

over-the-counter agents can induce unwanted side-effects although for most people they are safe to use. However, true hyperkeratotic lesions as a side-effect of taking a particular drug have been described for only a few. Naudi and Felix¹ described a case of a hyperkeratosis induced by long-term habitual placement of nicotine replacement lozenges in the right lingual sulcus. Rushing et al.² reported 2 cases of oral hairy leukoplakia that was attributable to treatment with corticosteroids, and Vlachoianis et al.³ suggested a possible link between the use of products that contained *Sanguinaria canadensis* (bloodroot) and leukoplakia.

The patient was treated by ablative Er:YAG laser (Light-Walker AT, Fotona, Slovenia) after she had stopped taking Snoreeze and the mucosal hyperkeratosis remained. The lesions subsided completely after treatment, and she was advised not to use it again.

To our knowledge this is the first case of hyperkeratosis induced by Snoreeze.

Conflict of Interest

We have no conflict of interest.

Ethics statement/confirmation of patient's permission

The patient gave informed consent to publication.

References

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Fig. 1. Extensive white, hyperkeratotic lesions on the right-hand side of the hard and soft palate, palatal arch, and right retromolar area.

Dragana Gabrić^{a,*}

Danko Velimir Vrdoljak^b

Vanja Vučičević Boras^c

^a Department of Oral Surgery, School of Dental Medicine,
University of Zagreb, Gundulićeva 5, 10000 Zagreb,
Croatia

^b Head of the National Cancer Institute, Clinic for Tumors;
CEO of the Clinical Hospital Center “Sisters of Mercy”,
Vinogradska cesta 29, 10000 Zagreb, Croatia

^c Head of the Department of Oral Medicine, School of
Dental Medicine, University of Zagreb; Dentistry Clinic,
Clinical Hospital Center Zagreb, Gundulićeva 5, 10000
Zagreb, Croatia

* Corresponding author at: Department of Oral Surgery,
School of Dental Medicine, University of Zagreb,
Gundulićeva 5, 10000 Zagreb, Croatia.
Tel.: +38514802119; fax: +38514802145.

E-mail addresses: dgabric@sfzg.hr (D. Gabrić),
d.v.vrdoljak@gmail.com (D.V. Vrdoljak), boras@sfzg.hr
(V.V. Boras)

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Re: Extensive oral mucosal hyperkeratosis caused by over-the-counter long lasting snoring relief agent

Sir,

We refer to a letter relating to the products distributed by our company.¹

To our knowledge, this is the first case in which anyone has attributed hyperkeratotic lesions to our products. We have sold over eight million of these in the last 15 years and know of no link between keratosis and our ingredients, many of which are widely used in other products that also make contact with the oral mucosa.

This patient snores, which is both an indicator and a symptom of disruption of the airway. At the least, snoring shows that oral tissue vibrates and at its most extreme, it is associated with full collapse of the airway. As the writers do not address this point in considering the possible source of hyperkeratosis it may be helpful if we do so.

When a person snores, the velocity of air and the resulting forces that act on the palatopharyngeal tissue are appreciable. Respiratory airflow causes strong rapid vibrational movements of the soft tissues, uvula, and soft palate of the upper airway, which, for a heavy snorer, can last throughout a full night's sleep and continue every night. Repeated vibration, particularly in conjunction with dehydration of the mucosa can result in serious trauma to the epithelium; snorers very commonly wake up in the morning with dry, inflamed, sore throats.

Observed pathophysiological changes in palatopharyngeal soft tissue (for example, the uvula or soft palate) of people who snore, or have obstructive sleep apnoea, or both, have been attributed to the repeated vibration. There have been reports of considerably thickened epithelial tissues and other changes in the structure of the epithelium.^{2,3}

Repeated vibration of the mucoepithelial tissue can lead to inflammation, hypertrophy, and the possibility of progressive neurogenic lesions. There is also evidence that when

snoring is associated with obstructive sleep apnoea, it can result in mucosal hyperkeratosis.⁴ Repeated vibration of the palatopharyngeal soft tissue can therefore result in a progression from inflammation, to oedema, to hypertrophy, and can lead to thickened epithelial tissue, neurogenic lesions, and hyperkeratosis in someone who snores over a long time.

As we do not have the full medical history and examination notes of the patient we cannot fully assess this case. We think that the likelihood of the keratosis occurring because of factors associated with long-term snoring has not been properly considered.

Conflict of interest

The author is an employee of Passion For Life Healthcare (UK) Limited, the manufacturer of the Snoreeze range of products.

References

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Simon Higginbottom*

Passion For Life Healthcare (UK) Limited, Pioneer House,
Pioneer Business Park, North Road, Ellesmere Port,
CH65 1AD, United Kingdom

* Tel.: +44 151 550 4700; fax: +44 1483 431 825.

E-mail address: simon.higginbottom@passionforlife.com

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Response to letter Re: Extensive oral mucosal hyperkeratosis caused by over-the-counter long lasting snoring relief agent

Sir,

We are writing with regard to the letter from a representative of the manufacturer of the snoring relief agent Snoreeze,¹ which was sent in response to our recent publication “Extensive oral mucosal hyperkeratosis caused by over-the-counter long lasting snoring relief agent”.²