

Chewing gum (sugar free) therapy: my experiences and research questions

TH Lam *, MD (HK)

Emeritus Professor, Honorary Clinical Professor, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China

* Corresponding author: hmr1th@hku.hk

Hong Kong Med J 2025;31:397–8
<https://doi.org/10.12809/hkmj2412234>

About 10 years ago, I experienced episodes of prolonged dry cough lasting more than a week (up to 2 weeks) after a simple upper respiratory infection. The cough worsened when I was in bed, causing difficulty in falling asleep and waking shortly after drifting off. Very annoying but not serious. Such problems were unusual. Previously, symptoms of upper respiratory infection completely disappeared within a few days. I then noticed that these prolonged symptoms seemed to be more common in some people.

On a trip—location forgotten, although probably an overseas international scientific conference—I had this dry cough while waiting for departure at the airport. I was worried that my persistent coughing, occurring several times a minute, would make me a very unwelcome passenger on the plane. In desperation, I put a piece of chewing gum into my mouth and began chewing (I was only an occasional user, generally chewing gum to keep myself awake during ‘boring’ presentations or, admittedly, because I was sleepy due to chronic sleep insufficiency). The effect was remarkable: my cough immediately stopped and did not recur for several hours in the cabin while the gum remained in my mouth. Why?

I then developed a hypothesis: the cause of the dry cough is ‘sticky postnasal drip’ (SPD), which persists after other upper respiratory infection symptoms, such as a runny nose, have subsided. The drip is not watery but highly viscous. You cannot feel it, yet it adheres to and irritates the throat, provoking the dry cough.

Chewing gum, or simply keeping it in the mouth, stimulates continuous secretion of saliva, which is rapidly swallowed (my recent post hoc literature search confirmed that chewing gum increases salivary flow rate). The saliva dilutes the sticky drip, which is then swallowed unnoticed, thereby relieving throat irritation and the associated cough.

The mechanism is mainly, if not wholly, mechanical. This may partly explain the cough-relieving effects of lozenges, pastilles, medicated or herbal syrups, water, steam, and other substances that immediately dilute SPD. Even if medications or herbs in lozenges and similar preparations have some

therapeutic effects, they are more costly, cannot be kept in the mouth for hours, and cannot be used as frequently.

I first shared my experiences with people who were coughing nearby, such as at receptions and meetings, as this type of dry cough can be easily recognised. When I heard such coughing, I quickly took a brief history to reach a provisional diagnosis of SPD-induced dry cough, then advised the person to chew a piece of gum. All complied. Remarkably, I almost always observed a substantial reduction in coughing or complete silence. I then advised, “As the symptoms have improved, continue for a few days until the dry cough has completely resolved.” I shared this successful chewing gum therapy with many relatives and friends, both in person and through social media, and almost always received positive feedback. The notable exception was one friend who experienced some improvement but whose symptoms persisted. He clearly needed to consult a doctor and was eventually diagnosed with asthma-related cough.

Such dry cough, when not due to asthma, may or may not be relieved by antihistamines. These drugs, however, can cause dryness of the nose and throat, leading to thicker or stickier SPD and worsening SPD-induced dry cough. Increasing the dosage to control dry cough in the absence of other symptoms may not be appropriate for everyone, as side-effects can occur. Centrally acting antitussives also seem too ‘heavy’ because they neither reduce SPD nor wash it down.

Keeping the humidity high in the throat can also help soften the postnasal drip, and the converse may be true. Even a normal throat needs to remain humid at all times. Talking too much increases ventilation in the throat and reduces humidity. This leads to 講到口都乾 (talking leading to mouth dryness) and can cause coughing even without postnasal drip, 講到氣咳 (talking too much leading to coughing). Singing and shouting also increase throat ventilation and can provoke dry coughing. Such coughing is usually relieved quickly by drinking warm water.

I once experienced an episode of severe dry cough that woke me in the middle of the night. I could not sleep again because of continuous coughing,

despite trying different sleeping positions. I dared not chew gum while lying down because suffocation is a real risk. Instead, I sat up and sipped small amounts of hot water (as hot as could be comfortably drunk), holding the water and steam in my mouth for a short time before swallowing slowly, bit by bit. I repeated this many times, especially before or when my throat began to itch. This succeeded in stopping the cough quickly. Such actions were based on the same principles and mechanisms as chewing gum, but they could provide more rapid symptom relief because of the stronger diluting effect of the larger volume of warmer fluid and the steam. I continued this for about half an hour until I felt much better. When I was confident the cough would not return soon, I went back to bed and had a good sleep. Sitting up also helped the drip descend more quickly due to gravity compared with lying down. In the morning, I chewed another piece of gum after breakfast (with hot tea) and continued chewing throughout the day. I had no further problems sleeping and recovered completely within a day or two.

Persistent dry coughing (with strong ventilation and pressure) may cause some physical harm, possibly accompanied by inflammation, in the throat, and a vicious cycle may follow. Reducing the cough could help ‘relax’ the throat or make it less sensitive.

I have some dramatic ‘case stories’ and would be pleased to share them elsewhere. I had not considered writing this up for a medical journal until a few months ago. The above is an ‘improved’ version of my earlier messages to others.

Prolonged SPD-induced dry cough seems to be increasing, although this speculation needs to be confirmed. My hypothesis is that rising air pollution, with increasing levels and varieties of allergens or irritants, could be a cause. Spending long hours in low-humidity indoor environments with air conditioning (cooling or heating) could also be an aggravating factor. Whether doctors are encountering such problems more frequently, and how they manage these symptoms, is also of great interest.

Post hoc literature search and response to reviewer

My PubMed search using “(chewing gum) and

(cough)” yielded 13 results, whereas “(chewing gum) and (postnasal)” yielded none. I found no reports with similar views to those described above (search date: 24 September 2024). I am most grateful to the reviewer for the enlightening comments below: Dry cough is a kind of non-productive cough that can be improved by non-pharmacological means, although the evidence is scarce.¹ Chewing gum has been shown to improve salivary flow and the pH of saliva,² which can alleviate dry mouth, xerotrachea, and Sjögren’s syndrome.³ The latter two are causes of dry cough. This commentary should be further expanded, at least to study the relationship between certain specific types of dry cough and chewing gum, in a more systematic and controlled manner.

Author contributions

The author solely contributed to the concept or design of the study, acquisition of the data, analysis or interpretation of the data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. The author had full access to the data, contributed to the study, approved the final version for publication, and takes responsibility for its accuracy and integrity.

Conflicts of interest

The author has disclosed no conflicts of interest.

Acknowledgement

The author thanks Professor Martin CS Wong of The Jockey Club Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong for his invaluable advice and encouragement. The author also thanks the editor and reviewers for useful comments and suggestions.

Funding/support

This study received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

1. Ilicic AM, Oliveira A, Habash R, et al. Non-pharmacological management of non-productive chronic cough in adults: a systematic review. *Front Rehabil Sci* 2022;3:905257.
2. Polland KE, Higgins E, Orchardson R. Salivary flow rate and pH during prolonged gum chewing in humans. *J Oral Rehabil* 2003;30:861-5.
3. Kassan SS, Moutsopoulos HM. Clinical manifestations and early diagnosis of Sjögren syndrome. *Arch Intern Med* 2004;164:1275-84.