

## Dental erosion stemmed from gastroesophageal reflux in Avicenna's view

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Letter to editor

### INTRODUCTION

According to Avicenna, tooth decay occurs as a result of the moisture permeation caused by rise of stomach contents or the sinus secretions draining from the retropharyngeal space into the mouth. He asserts that the stomach health and accordingly proper food digestion play a very important role in dental health.

Gastroesophageal reflux disease (GERD) is a common disorder which accounts for 17.5% of all gastrointestinal illnesses. Tooth decay is one of the notable complications caused by reflux.<sup>1</sup> In a study, 22.6% of GERD patients were reported to be suffering from dental erosion, while the risk for healthy people is about 7%.<sup>2</sup> The higher the grade of reflux disease, the more severe is tooth decay. Chronic reflux affects oral soft tissue, tooth structure and pH of the salivary glands.<sup>3</sup> In such patients, the reflux disease should be controlled and topical treatment of the tooth decay needs to be added.<sup>4</sup>

According to Avicenna, tooth decay occurs as a result of the permeation of the smelly moisture into the teeth. The moisture originates either from the arising contents of the stomach or from the sinus secretions draining from the

retropharyngeal space into the mouth. He maintains that the gut health and proper food digestion play a very important role in dental health. The main eight principles to keep the teeth healthy, based on the Canon of Medicine, are as follows:

To avoid food corruption in the stomach; those foods like milk and salted fish which are prone to corruption in the stomach should be abstained from; besides, eating various foods in a meal is of the factors that cause food spoilage in the stomach; too much vomiting and, consequently, regurgitation of the sour gastric contents to the mouth is considered the factor that can threaten the health of teeth; Excessive use of chewing gum should be avoided, especially if it is sweet. Breaking "hard things" with teeth should be eschewed; consumption of sour foods that blunt the teeth needs to be avoided; consuming something very cold, just shortly after eating hot food, and conversely, consuming something very hot, soon after eating cold food should be avoided; interdental spaces ought to be cleaned gently; avoidance of substances, like leek, that are harmful per se to the teeth has to be considered.<sup>5</sup>

Treatment of patients with gastroesophageal reflux requires prevention

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of moisture from penetrating into the teeth and clearance of the teeth from the corrupted and putrid things. Some medications can thwart the impact of moisture on teeth. Medications that protect the teeth against moisture should possess moisture drying and astringent properties. The medications include Myrtle (*Myrtus communis* L.) and Boxthorn (*Lycium afrum* L.).

Most of the medications enjoy tooth covering technique: Coating the teeth with *Ferula persica* L. and *Cyperus longus* L. (chewing just *Ferula persica* impedes tooth decay and relieves toothache); covering the teeth with Mastic from *Pistacia lentiscus* L. and Galingale (*Cyperus longus*); coating the teeth with Myrrh (*Commiphora myrrha* (Nees) Engl.), Sweetgum (*Liquidambar orientalis* L.) or with Pistachio (*Pistacia terebinthus* L. or Chio Gum) and Pepper (*Piper nigrum* L.); covering the teeth with Pistacia and Willd mint (*Mentha longifolia* (L.) Huds.) or with Nigella powder (*Nigella sativa* L.) mixed with vinegar and honey; coating the teeth with Asafoetida (*Ferula assafoetida* L.).

Taking sips of some substances, such as the root of Caper (*Capparis spinosa* L.) cooked in vinegar, fortifies and amends teeth; letting the Almond oil (*Prunus amygdalus* Batsch or Sweet Almond

Kernel) to flow on the damaged tooth is helpful, as well.<sup>5</sup>

Each medication stated above or a combination of some can hinder, or at least minimize tooth decay secondary to the gastroesophageal reflux.

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