

## How Dangerous Might be Gerd for Teeth!

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A recent review showed a mean prevalence of 24% dental erosion in patients with GERD and a median prevalence of 32.5% for GERD in adult patients who had tooth erosion [1]. Therefore as the observation is also showing there is a direct relationship between these two phenomena and we as a dentist are the first clinician to observe and diagnose the possibility of erosion and reflux, specifically in silent refluxers. It's important to be diagnosed because if not it will cause serious health problems [2].

Gastroesophageal reflux (GER) is defined as a physiologic retrograde flow of gastric contents into the esophagus that occurs mostly postprandial (after meals) for around one hour per day [3].

GER is considered when the Ph of content drops below 4 for more than 30 seconds but in healthy adults its cleared from esophagus within 1 - 2 minutes and also Saliva is playing the main role in buffering action and prevention of mechanical damages by lubricating the esophagus against food particles [4].

It is also to be mentioned that the main anti-reflux is gravity while upright and also the same function is also performed by oblique course of gastropharyngeal junction and diaphragmic curve and last but not least by tonic contraction of circular muscles of lower esophageal sphincter [5].

GER is not pathologic or causing symptoms in mucogastric tissue but it can progress to a pathologic condition called GERD which is symptomatic and felt by heart burn and regurgitation. Lately GERD is subclassified into esophageal and extra esophageal syndromes.

GERD may occur during sleep or routine and 40 - 81 percent of patients reported for GERD had experienced it both during sleep and routine [6].

As its reported the peak time of GERD was in first two hours of sleep (pre REM) and then followed by the waking stage and the duration was about 15 - 20 minutes with comparison to only 1 - 2 minutes in routine. It's believed that this can recur continuously until the PH drops below 4 for a period of 60 minutes which includes a period of 10 minutes in which the PH drops to 1 until it re-elevate to 4 [6] and this situation cleared the potential pathogen-

esis of GERD in both extraesophageal and esophageal structures during sleep.

With regard to the action of GER body also has its mechanism to protect the gastroesophageal against it. The mechanism is by increase in salivary flow and swallowing mechanism. It's believed that it's the same for waking and sleeping situation with the difference in magnitude in secretion and it is followed by volumetric clearance of the refluxate and the prevention of pulmonary aspiration.

In fact the relation between dental erosion with GERD was first reported in 1933 and there were few studies done after that but according to Bohmer 65,5% of patients showed dental erosion with the abnormal PH changes below 4 [7].

Also, another systemic study in 2009 showed strong evidences of dental erosion and low PH and this was compared with the controlled group as neutral [8].

### How to diagnose!

Well as also mentioned above there are several clinical manifestations present with patients suffering from GERD which might be of tightening or burning sensation in the back of the throat and chest area (usually behind the breastbone) but regarding our profession part as a dentist we can observe dental caries and erosion in lingual, palatal side of dentition specially in chronic patients, xerostomia and burning sensation. And before we come in to diagnosis we have to keep in mind that other factors such as diet, drugs, poor oral hygiene or eating habits or genetics or other pathological factors such as erythema of palatal mucosa or uvula should be clearly noted and excluded.

### Treatment

In this patients as the same as most of the disease treating the cause of termination of stimulus are followed by each other and the therapeutic options might differ from medication or diet modification to surgical intervention depend of severity of case. Modifications of the diet (control over intake of foods and reduction of the beverages that contain fat, sugars and acids) IS A MUST to decrease the time of exposure at gastric acid and secretions and for sure pharmacological tx in order to obtain the optimum result [9].

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