

Halitosis: Effluvium of Mouth: A Review

Abstract

Halitosis or oral malodor is a common complaint of society due to varied life style and relationships. The actual cause for such unpleasant odor is still unknown. However, there are certain infections of oral, respiratory tract and gastrointestinal tract such as periodontitis, bronchial asthma, esophageal reflux etc, habits such as smoking and alcohol consumption and intake of variety of food stuffs such as garlic, spicy food etc in diet and various other life style habits has been seen as the underlying cause for such conditions. These groups of population are usually advised with proper oral hygiene care with change in their regular life style.

Key Words

Halitosis; infections; food habits; oral hygiene

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INTRODUCTION

Halitosis is derived from the latin *Halitus*, meaning breath and the Greek *osis* meaning abnormal or diseased. It is a medical term which was first coined by the Listerine Company in 1921 which was used to describe unpleasant or bad breath. Halitosis is used a symptom and not a disease, associated with oral, systemic and psychological conditions.^[1] It can be either genuine halitosis, Pseudo-halitosis or halitophobia. According to past studies, oral malodor was found to be more prevalent in men than women irrespective of their age, however, with an increased frequency in people more than 20 years of age.^[2,3] Oral malodor usually results due to release of volatile substances such as odoriferous volatile sulphur compounds (VSCs) in the exhaled air.^[1,4] Oral malodor are mainly of three types; morning breath due to decrease flow of saliva during sleep, exogenous malodor due to usage of various food habits in diet and endogenous malodor due to bacterial activity.

Pathogenesis

They arise due to action of bacteria from the volatile malodorous compounds causing breaking down of epithelial cells, salivary and serum proteins and food debris. The common compounds are methyl mercaptan, hydrogen sulphide and dimethyl sulphide. The other compounds which may also contribute are diamines and phenyl compounds such as butyric acid, pyridine etc.^[4] The production of these compounds are mediated by many oral anaerobic organisms, particularly exhibiting proteolytic activity which includes *Porphyromonas gingivalis*, *Prevotella intermedia*, *Treponema denticola*, *Fusobacterium nucleatum*, *Tannerella forsythensis*, *Porphyromonas endodontalis* etc. and various other species.^[4-9] Tongue is seen as the most common site in the oral cavity for such prevalence of malodor especially the tongue coating on the dorsum surface of tongue to which these organisms are associated.^[4,10]

Common Causes and predisposing factors of oral malodor^[11]

Oral disease

- Food impaction
- Acute necrotising ulcerative gingivitis
- Adult and aggressive periodontitis
- Pericoronitis
- Dry socket
- Xerostomia
- Oral ulceration

Volatile foodstuffs

- Garlic
- Onions
- Spiced foods

Drugs

- Chloral hydrate
- Nitrites and nitrates
- Dimethyl sulphoxide
- Disulphiram
- Phenothiazines
- Amphetamines

Systemic causes

- Acute febrile illness
- Respiratory tract infection (usually upper)
- Gastro-oesophageal reflux disease
- Pyloric stenosis or duodenal obstruction
- Hepatic failure (fetor hepaticus)
- Renal failure (end stage)
- Diabetic ketoacidosis

Methods for measurement and diagnosing of Halitosis

The three primary measurement methods of genuine halitosis are ^[1,12-14]

1. Organoleptic measurement
2. Gas chromatography
3. Sulphide monitoring

ORGANOLEPTIC MEASUREMENT

It is the commonly used measurement method in which a plastic tube is inserted into the patient's mouth, preventing the dilution of mouth air with room air. While exhalation slowly, the examiner thus judges the odor at the other end of the tube.

GAS CHROMATOGRAPHY

A quantitative analysis of VSCs by a gas chromatography (GC) which is equipped with a flame photometric detector (FPD) is considered as one of the most reliable measurement method for diagnosing halitosis. However, it is expensive way of measurement and requires skillful operator for the procedure.^[18]

SULPHIDE MONITORING

It is used to analyze total content of sulfur of patient's mouth air.^[18] The quantitative measurement of oral malodor is achieved by using portable VSC detectors, ex-sulfide monitor. A disposable tube is inserted into patient's mouth and connected to the monitor that was zeroed on ambient air, while the patient is breathing through the nose.

Halitosis needed to be properly treated and managed and hence it should be diagnosed correctly, which includes thorough medical history and personal habits questionnaire and clinical observations of oral health status especially the tongue, teeth and periodontal tissues. Identifying the volatile compounds and their origin that are associated with malodor should be noted for the need of proper management of it.^[16]

Management

There is no specific treatment and the management mainly depends on its underlying cause. Avoiding use of drugs, food causing the unfavourable odor, smoking can improve the condition. In addition, use of commercially available chewing gums and mouth rinses can also provide a temporary alternative.^[2,15] However, the most important treatment is the maintenance and improving oral hygiene by treating the bacterial disease mainly dental caries and periodontal disease. Effective brushing and cleaning of teeth and tongue can inhibit the growth of organisms that causes such odor. Regular visit to a dental health professional will aid in complete elimination of oral malodor improving the oral health status of an individual. Various types of toothpastes and mouth rinses are advised to reduce the problem of halitosis. These products have ingredients like triclosan, cetylpyridinium chloride (CPC), CHX, zinc etc.^[16,17] Some patients are halitophobic and pseudohalitosis, in which there is no offensive malodor believes that they have halitosis. In such instances, the patient should be explained by the dental or health practitioner regarding their own judgment of malodor, whether it truly exists or not. Halitophobic patients are generally unhappy with this problem and hence they are usually advised to visit a psychological specialist for changing attitude by other individuals towards them.^[18]

CONCLUSION

To summarize, oral malodor or halitosis is a common oral symptomatic finding and are associated with various life styles and habits. They

are seen today in all ages irrespective of the sex and have a contributable effect on an individual's relationships in a society. Halitosis is a clinical diagnosis, acting as an indicator in various medical problems. Self-assessment is unreliable and the need for a dental health care professional is mandatory for its elimination.

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