

Investigation the opinion of dentist and management of the gag reflex in their dental practics

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Abstract

Introduction

The gag reflex is a normal mechanism. Approximately 74% of people have a high-intensity gag reflex and 8.2% of dental patients suffered from it. The contractions of orofacial muscles can lead to problems during the clinical stages, poor treatment outcomes. Many strategies have been used to control the strong gag reflex, but they have variable success and multiple methods may need to be applied until the right technique is found for an individual.

Aim

The aim of the present study is to investigate the opinion of Bulgarian dentist and their management with patients with severe gag reflex.

Materials and Methods

A total number of 155 dentists filled a questionnaire. The survey was conducted via electronic environment through Google forms. The statistical analysis was done with the IBM SPSS Version 26.

Results

The majority of the 155 participants surveyed were general practitioners of dental medicine (85.8%), specialists in prosthetic dentistry (7.1%), and the smallest proportion of them had another acquired specialty (0.6%). The majority (83.9%) indicated that they had patients who exhibited an enhanced gag reflex and none negative responses. Patient's visits with gag reflex visits affect the work schedule. They use antiemetic drugs (57%), local anesthesia is less used (19%), infiltration anesthesia 47 (30.72%) and general anesthesia (5.88%) to manage the gag reflex. Although this strategies the gag reflex has not been overcome in most cases.

Conclusion

From the present study it can be concluded that gag reflex is an actual problem. The skill of the dental practitioner is a great responsibility for controlling the difficulty situation and for conducting treatment with satisfactory results for the patient.

Keywords: gag reflex, questionnaire, management, dentistry

Introduction

The gag reflex is a normal and protective mechanism and it is controlled by parasympathetic division of the autonomic nervous system (1)(2).

Approximately 74% of people have a high-intensity gag reflex (3) and 8.2% of dental patients reported nausea (4). 20% of patients who do not visit dental offices suffer from a gag reflex during various dental procedures (5) and it is most often observed in prosthodontics dental ones (6). The most common manifestation of GR is during maxillary impression recording, due to fear of suffocation or the unpleasant taste; in intraoral radiography due to stimulation of the floor of the oral cavity; periodontal scaling by placing a saliva ejector or rubber dam (7).

Physical factors such as anatomical abnormalities and sensitivity of the oropharynx have been suggested to predispose to GR. There are two main stimuli:

- Intraoral - tactile irritation of the palate with hyposensitive and hypersensitive areas in its posterior part (around the fovea palatini) and anterior hyposensitive area and a posterior one third with hypersensitive areas of the tongue (8).
- Extraoral - include visual, auditory and olfactory stimuli (8) (9).

Local factors such as diseases related to the ENT system - nasal obstruction, post nasal drip, chronic inflammation and congestion of the mucosa can be

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indicated as reasons that give a clinical predisposition to a gag reflex. Nasal polyps or sinusitis block the airways, reduce the airflow and increase the sense of nausea and vomiting (8) (10) (12).

When the urge to nausea appears, the masticatory muscles, the mylohyoid muscle, the lips, the tongue, the larynx and the pharynx which are innervated by V, VII, X, XII Cranial nerves and the pharyngeal plexus react with a contraction. It is also accompanied by autonomic nervous system symptoms such as pallor, weakness, tachycardia, profuse sweating and hypersalivation (13). The sudden contractions of the muscles of the orofacial complex can lead to problems during the clinical stages of manufacture and during the wearing of removable full and partial dentures (14) (15). Poor performance of clinical manipulations could induce gagging in patients who are not normally susceptible to it. As an example, Jain Ashish gives an overloaded impression tray with material or an unstable, poorly retained removable denture (8).

A number of strategies have been used to control the strong gag reflex. These include: relaxation, distraction and desensitization techniques; psychological and behavioral therapies; local anesthesia, conscious sedation and general anesthesia; and complementary medical therapies such as hypnosis, acupressure, and acupuncture. These strategies have variable success and multiple methods may need to be applied until the right technique is found for an individual (4).

Aim

The aim of the present study is to investigate the opinion of Bulgarian dentist and their management with sever gag reflex in their dental practices.

Material and methods

The level of awareness of dentists regarding patients with a dominant gag reflex, how it affects the work schedule and the level of effectiveness in overcoming it was investigated. A total number of 155 dentists participated in a survey conducted in the period November - December 2022, in an electronic environment, through Google forms. After completing the survey, statistical analysis was done with the IBM SPSS Version 26 program and the information was presented through charts, tables and graphs.

Results

The majority of the 155 surveyed participants were general practitioners of dental medicine without a specialty (85.8%), and in second place (7.1%) were specialists in prosthetic dentistry, and the smallest proportion of them answered that they had another acquired specialty (0.6%). The majority (83.9%) indicated that they had patients who exhibited an enhanced gag reflex and lacked negative responses. GR patient visits are less common in dental clinics, but affect the work schedule (Fig. 1).

How often do you have patients with gagging?

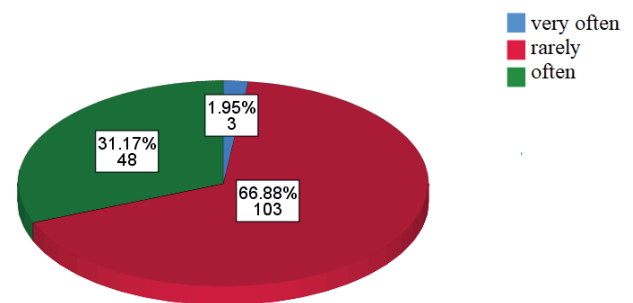


Figure 1. How often do you have patients with a gag reflex?

In this study most of the dentists encounter a difficulty during the examination of a patient with GR and indicate that it is intermittent. They prefer to prescribe antiemetic drugs (57%), while the application of local anesthetic is less used (19%). A contact anesthetic (Lidocaine, spray 10%) gives a positive effect to a gag reflex in 67.1%, but 22.6% of patients with gagging was not affected by the anesthetic. The following statistical method of cross-tabulation of Lidocaine spray 10% is NOT directly related to the outcome of the treatment of a patient with manifested nausea reflex (tab. 2).

Table 2. Results of the χ^2 (Chi-square) test at a confidence interval of 0.95

χ^2 test – results			
	Values	Degrees of freedom	Significance (2-sided)
Pearson's χ^2	4.847 ^a	4	.303
Possible Range	4.689	4	.321
N number of valid cases	155	0	0.0

97 (63.40%) of the participants did not administer infiltration anesthesia to manage the gag reflex. 47 (30.72%) of them who applied it were successful,

and only a very small part of the respondents - 9 (5.88%) failed to influence the gag reflex despite the application of anesthesia.

Regarding the prescription of Degan, the results of the conducted survey indicated that 57% of the dental doctors found improvement in their patients after taking Degan, but the rest of them either did not prescribe it (32.47%) or it did not work (10.39%). After a statistical method of cross-tabulation, it is considered that the use of Degan is directly related to the outcome of the treatment of the patient with a manifested gag reflex (tab. 1).

Table 1. Results of χ^2 (Chi square) test at 0.95 confidence interval

χ^2 test – results			
	Values	Degrees of freedom	Significance (2-sided)
Pearson's χ^2	14.815 ^a	6	.022
Possible Range	16.811	6	.030
N number of valid cases	155	0	0.0

The most commonly used antiemetic drug is Degan (fig. 2). The use of other antiemetic drugs is less prevalent, with "Dimenhydrinate", Validol and homeopathic remedies representatives ("Cocculine" and "Vomitus").

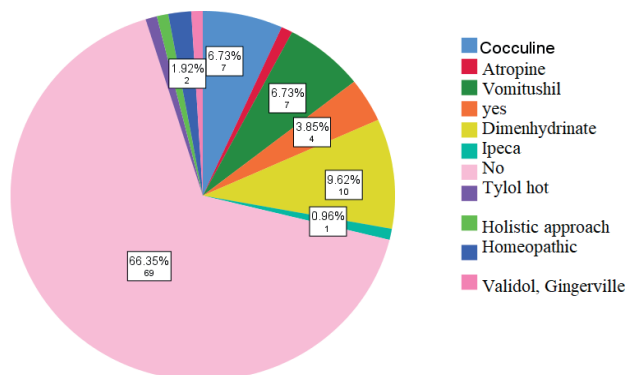


Figure 2. Have you used any other antiemetic medication to prevent the gag reflex?

Techniques for controlling the gag reflex are not often applicable, with 47% of the dentist doesn't applying them at all (Fig.3)

General anesthesia as a method of dealing with GR is rarely applicable (5.88%). The reason for this is that it cannot be used in general dental practice. The anesthesia team is needed to introduce a patient un-

„Have you used a technique to prevent the gag reflex? Specify what it is.“

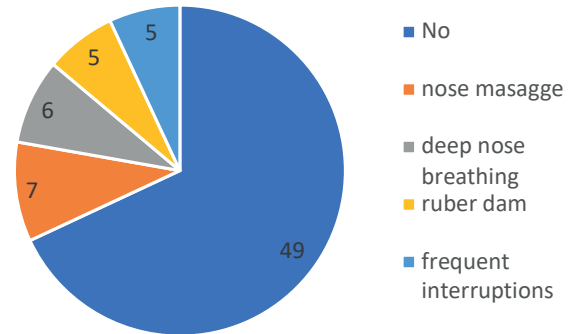


Figure 3. Have you used a technique to prevent the gag reflex? State what it is.

der general anesthesia, and more time is required. According to the dentists who took part in the study, GR is most pronounced during the maxillary impression recording - in the first place, then when working on distal teeth and in the third place - again during the examination.

From the conducted research, it can be seen that despite the large set of measures, GR has not been overcome in the most cases (Fig. 4).

Has it happened that despite the measures taken, the nausea reflex cannot be overcome?

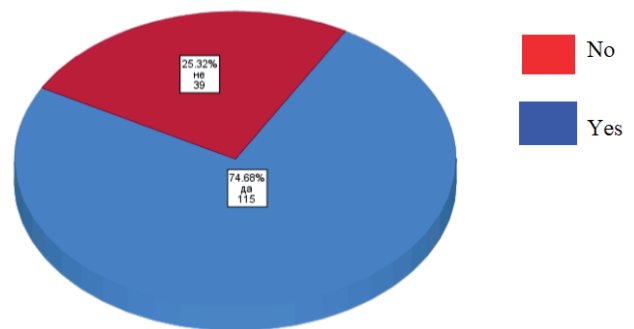


Figure 4. Has it happened that despite the measures taken, the gag reflex cannot be overcome?

Conclusion

From the present study it can be concluded that gag reflex is an actual problem. Many dentists use pharmacological and/or behavioral techniques. Contact anesthesia is not effective in all patients and may cause worsened symptoms in others. General anesthesia could be used as an alternative, but with high costs and requires an additional team still make it a last resort. The effect of behavioral techniques is individual and it takes more time. Despite numerous management strategies, the gag reflex couldn't be resolved in every case. The skill of the dental



practitioner is a great responsibility for controlling the difficulty situation and for conducting treatment with satisfactory results for the patient.

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Reviewer of the article:

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