INTRALIGAMENTARY ANESTHESIA IN GENERAL DENTAL PRACTICE

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ABSTRACT:

The aim of the present study was to evaluate intraligamentary anesthesia as it is used in general dental practice. **Material and methods**: The study included 220 dental practitioners throughout Bulgaria who were interviewed anonymously using a direct group questionnaire survey. We analysed problems primarily related to the application, analgesic effect and complications of the anesthesia. The **results** of the study have shown that 75.91% of Bulgarian dental practitioners use intraligamentary anesthesia in almost all types of dental treatment. Complications were found to occur in 27.54%. The anesthesia was sufficiently effective only in 32.94%. **Conclusion**: Intraligamentary anesthesia is used frequently by Bulgarian dentists. The effect of this type of anesthesia is not always sufficient to induce effective analgesia and very often additional anesthetic procedures are necessary.

Key words: intraligamentary anesthesia, complications, application, dental practitioners survey

INTRODUCTION:

Efficient pain management is crucially important for a dental procedure to be successful. The fear of dental pain is so strong in some patients that it makes them decline treatment[1,3] A local anesthesia which is administered painlessly and efficaciously is absolutely important in the management of pain and the fear-induced anxiety states.

Intraligamentary anesthesia is commonly used as it is efficient and easily to perform. It is preferred in treatment procedures involving the mandible. Some authors consider it to be more efficient than conduction anesthesia.[4,5,8] Another reason this type of anesthesia is preferred is the minimal anesthetic dose it usually uses[6]. The local inflammation that develops in some cases during the first 24 hours and which continues for seven days, is most probably due to the dental trauma rather than to the anesthesia.

Tsirlis et al[11] conducted comparative studies of conduction and intraligamentary anesthesia in extraction of mandibular mollars. They found no statistically significant differences in the complications of the dry socket type.

Meechen[2] has found that intraligamentary anesthesia is an efficient anesthetic technique but stresses the necessity of a very accurate conduction of the procedure.

Galili[7] performed a trial to find whether the injection needle and the anesthetic solution have any deleterious effect on the periodontal apparatus; no bone or cemental damage was found to be caused by these.

The pressure under which the anesthetic solution is injected is also of importance. Pertot[10] has demonstrated the occurrence of root and bone resorption in cases the solution is injected under high pressure.

To reduce the discomfort caused by the injection of the anesthetic solution, Meechen[9] suggests the use of local anesthesia with cream or spray.

Intraligamentary anesthesia has been widely used in Bulgarian dental practice in the recent years. Little is known, however, about the particular use of this type of anesthesia by general dental practitioners (GDP) and about the dentists' opinion of it which determined the aim of our study.

AIM:

To evaluate the use of intraligamentary anesthesia in general dental practice.

MATERIAL AND METHODS:

The study sample included 220 dental practitioners. The data were obtained using a group questionnaire survey conducted anonymously. The survey was conducted in June and October 2003 and in March and April 2004. A specially prepared questionnaire was sent to all respondents. The questionnaire contained questions covering demographic data such as gender, years in dentistry, acquired specialty, and location of dental practice. Questions were also included about the application of the anesthesia, the degree of anesthetic effect and whether there were any complications as a result of it. The data were analysed statistically using the alternative analysis.

RESULTS AND DISCUSSION:

59 (26.82) of the respondents were men, and 161 (73.18%) were women. The distribution of the participants in the survey by years in dentistry is as follows: up to 10 years of service – 45 (20.45%) general practitioners, 10 to 20 years – 74 (33.63) and over 20 years – 101 (45.92%) (Table 1).

Table 1. Years in dentistry

Up to 10 years	10 to 20 years	over 20 years	Total
45	74	101	220
20.45	33.64	45.91	%
6.01	5.49	4.96	Sp

The experienced dentists with over 10 years of dental experience prevail (79.55%). Only 4 (1.28%) of these have a specialty of oral surgery. 98 (44.55%) have an acquired specialty of general dentistry, 75 (34.09%) have no specialty and 43 (19.55%) have some other specialty (Table 2.)

Table 2. Distribution by specialty

General dentistry	Oral dentistry	Other specialties	No specialty	Total
98	4	43	75	220
44.55	1.82	19.55	34.09	%
5.02	6.68	6.05	5.47	Sp

The prevailing number of GDP have a specialty in general dentistry or no specialty.

As to the location of the dental practice, 20 (54.55%) GDPs work in residential areas with more than 100 000 residents, 85 (38.64%) – in areas less than 100 000 residents and only 15 (24.09%) reported to work in rural villages.

Table 3 presents the respondents' answers to the following question: "Do you use intraligamentary anesthesia?" Positive answer was given by 167 (75.91%) dental practitioners; 53 (24.09%) dental practitioners said they did not use intraligamentary anesthesia.

Table 3. Use of intraligamentary anesthesia

Frequent use	Occasional use	No use	Total
85	82	53	220
38.60	37.30	24.10	%
5.28	5.34	5.87	Sp

Table 4. Cases in which intraligamentary anesthesia is preferred

Vital extirpation	Tooth extraction	Carries treatment	Tooth preparation	Total
93	81	102	89	167
55.69	48.50	61.08	53.29	%
5.15	5.55	4.83	5.29	Sp

Intraligamentary anesthesia is used in all cases with almost the same frequency.

The answers to the question: "Do you have complication after administration of intraligamentary anesthesia?" are summarized in Table 5.

Table 5. Complications after intraligamentary anesthesia

No	Periodontitis	Alveolitis	Necrosis	Total
121	25	15	6	167
72.46	14.97	8.98	3.59	%
4.06	7.14	7.38	7.60	Sp

121 (72.46%) respondents reported absence of complications after the procedure while only 46 (27.54%) said that they observed development of complications after the procedure.

Table 6 summarizes the responses to the question: "Do you get an adequate anesthetic effect of the intraligamentary anesthesia?"

Table 6.

Yes	Not always	No	Total
55	107	5	167
32.94	64.07	2.99	%
6.34	4.64	7.62	Sp

The number of the GDPs giving positive answer is 55 (32.94%), while 112 (67.06%) are not satisfied by the anesthetic effect.

CONCLUSION:

The general dental practitioners we tested were mainly very experienced dentists with more than 10 years of dental experience. Almost half of them have an acquired polyvalent specialty. The dentists without specialty are quite a large number.

Intraligamentary anesthesia is used by 75.91% of our study sample. It is used in almost all types of dental procedures. The data indicate that complications occur in 27.54%. The anesthetic effect is reported to be adequate by 32.94% of the dentists. In all other cases additional anesthesia has to be administered.

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ASSESSMENT OF THE GENERAL HEALTH STATUS OF DENTAL PATIENTS BEFORE TEETH EXTRACTION

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ABSTRACT

The **aim** of the present study was to evaluate the general health status of patients that are planned to have teeth extraction under local anesthesia. **Material and methods**: We recruited 635 patients of those treated in the dental surgeries of the Department of Oral Surgery in the Faculty of Dentistry, Medical University, Plovdiv. Prospective questionnaire survey was used to assess their general health status. The questionnaire included demographic questions and questions about current disease. All concomitant diseases that could affect the application of local anesthetic agents were grouped into cardiovascular diseases, endocrine diseases, allergic diseases, and other diseases. **Results**: Most of the respondents were over 50 years old (66.33%). 43.94% of the patients reported presence of some concomitant disease, hypertension being the most prevalent disorder (34.49%). This disease poses a serious risk for patients who receive local anesthesia.

Key words: general health status, anesthetics, teeth extraction

INTRODUCTION

Stress, unhealthy dietary habits and unhealthy way of living, the use of all kinds of chemical substances have raised the morbidity rate of cardiovascular, endocrine and allergic diseases[1,5] Along with the drastic aging of population, they present dentists with some serious problems connected with application of local anesthetic agents.[2-4,6] Therefore we decided to study the general health status of patients