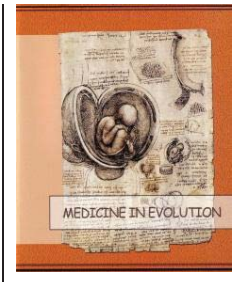


Anamnestic evaluation of the patient treated with bisphosphonated: A questionnaire based survey



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Abstract

The management of patients undergoing bisphosphonate treatment in the dental office has become a challenge for doctors since the discovery of the side effects of these substances in the oral cavity. The aim of the study was to evaluate the way in which the patient's anamnesis is performed in the dental office, in direct connection with the diseases treated with bisphosphonates (osteoporosis, Paget Disease and oncological pathology). The present study was conducted by applying a questionnaire (which included 11 closed questions) that assesses the importance given to the patient with these conditions and to estimate the level of information of the dentists about the management of these patients. Although the literature is rich in information about bisphosphonates and their side effects, the results obtained by applying the questionnaire showed that: 63.36% of dentists do not ask questions about osteoporosis during anamnesis, and 85% of them voluntarily discontinue the bisphosphonates treatment without consulting a specialist.

Keywords: bisphosphonates, anamnesis, osteonecrosis of the jaws

INTRODUCTION

Among the medical branches, dentistry occupies a well-defined place, with a significant importance in terms of workload, time and value of the obtained results, with a logical inclusion in the wider sphere of general health of patients, so it is normal and necessary to remove the specific therapeutic maneuvers from the area of random and empirical, and be followed by detailed and rigorous substantiation on modern scientific bases.

The dental treatment plan must be individualized, in relation to the general medical conditions of the patient, whose presence can be established using data that the doctor can obtain through a judicious anamnesis and a rigorous objective, complex and complete clinical examination. There is a need for a multidisciplinary therapeutic approach, working in a medical team, delegating certain responsibilities to specially trained and competent staff, collaborating with the general practitioner and other specialties (as appropriate), which manages the evolution of patients' general ailments. (1)

Bisphosphonates are the most commonly used therapeutic class in patients with postmenopausal osteoporosis. Their pharmacological and therapeutic effects at the bone level are due to the inhibitory action of resorption over the activity of osteoclasts and the induction of their apoptosis, which is why they are administered in other conditions such as Paget's disease, bone metastases in various neoplasms, malignant hypercalcemia.

The most important side effect of bisphosphonate treatment is osteonecrosis of the jaws. Knowledge of the pathogenesis of this new clinical entity requires a good collaboration between dentists, maxillofacial surgeons, oncologists (2,3) for the benefit of the patient. Moreover, as dentoalveolar surgery seems to precipitate the occurrence of osteonecrosis of the jaws related to bisphosphonate therapies, alternative attitudes to dental extractions are recommended for patients with a history of bisphosphonate treatment. Restorative dental procedures should be performed to treat caries and remove defective fillings. Routine restorative dental procedures that can cause continuity damage such as treating cavities and removing defective fillings can trigger side effects of the medication. For some of these patients, longer dental crowns and fixed restorations are not an optimal solution. (4,5) Mobile dentures should be evaluated for stability and dental occlusion, making necessary adjustments as needed. In totally or partially edentulous patients, one of the aims is minimizing as much as possible the stress exerted by the dentures on the underlying oral mucosa.

The increasing frequency of cases of osteonecrosis of the jaws in patients undergoing bisphosphonate treatments requires obtaining more prospective data that helps in ranking the risk factors that contribute to the occurrence of necrotic maxillary lesions and allow the development of a valid universal standardized treatment protocol for this pathology. (6,7,8,9)

Aim and objectives

The aim of the study was to evaluate the way in which the patient's anamnesis is performed in the dental office, in direct connection with the diseases treated with bisphosphonates (osteoporosis, Paget Disease and oncological pathology).

MATERIAL AND METHODS

This study is a cross-sectional, correlational and observational study. It was made by applying a questionnaire to a number of 400 dentists participating in a conference in western Romania. Out of the total participants, 298 questionnaires were returned. 2% of the questionnaires were excluded due to partial completion or multiple ticking of the answers.

The questionnaire includes 11 closed questions assessing how dentists perform the patients anamnesis regarding bisphosphonates and how they manage these patients.

The questionnaire was validated by a study on a group of 35 dentists, the value of the Cronbach alfa index being 0.947 which is a good value in relation to the required threshold (0.700) to validate the application of this questionnaire. The questionnaire was distributed by a single person, and the subjects were not allowed to consult any information during its completion. Statistical analysis was performed with Microsoft Excel.

RESULTS

Only 63.4% of dentists during the anamnesis ask if the patient suffers from osteoporosis, 36.6% omit the importance of this condition.

Paget's disease, together with its treatment, involves a certain working protocol in patients with this condition, but only 38% of dentists ask questions about this disease. 61.5% omit to ask about it.

76.3% of dentists in this group assign a special section to oncology patients. 23.66% do not consider it necessary to ask questions about neoplastic diseases.

Bisphosphonates have many side effects in the oral cavity. 71.8% of dentists in the study group know data about these effects, while 28.2% of them were not informed.

The frequency of knowledge of complications after dental procedures in patients treated with bisphosphonates is 73.7%. 26.3% have no knowledge about dental procedures in patients treated with bisphosphonates.

Table 1. Results obtained in the evaluation questionnaire

<i>Question</i>	<i>Yes %</i>	<i>No%</i>
1.Does the history provide questions related to the treatment of osteoporosis?	36,64%	63,36%
2.Does the history provide questions regarding the treatment of Paget's Disease?	61,45%	38,55%
3.Does the anamnesis provide questions related to the treatment of oncological diseases?	23,66%	76,34%
4.Do you know the medical implications of bisphosphonate administration in patients involved in dental treatment?	28,24%	71,76%
5.Do you know the complications of extraction and other dental procedures in patients treated with bisphosphonates?	26,34%	73,66%
6.Do you know the trade names of bisphosphonates?	56,49%	43,51%
7.After the patient informs you that he is being treated with bisphosphonates, do you send him back to the specialist for discontinuation?	29,39 %	70,61%
8.If the patient has informed you that he is being treated with bisphosphonates, do you independently discontinue bisphosphonates during dental treatment (without consulting a specialist)?	14,50%	85,5%
9.If the patient has informed you that he is being treated with bisphosphonates, do you perform antibiotic prophylaxis treatment?	40,08%	59,92%
10.If the patient has informed you that he is being treated with bisphosphonates, do you refer the patient to the maxillofacial surgery service?	44,27%	55,73%
11.Did you know that bisphosphonates are found in the bones up to 10 years after treatment?	60,69%	39,31%

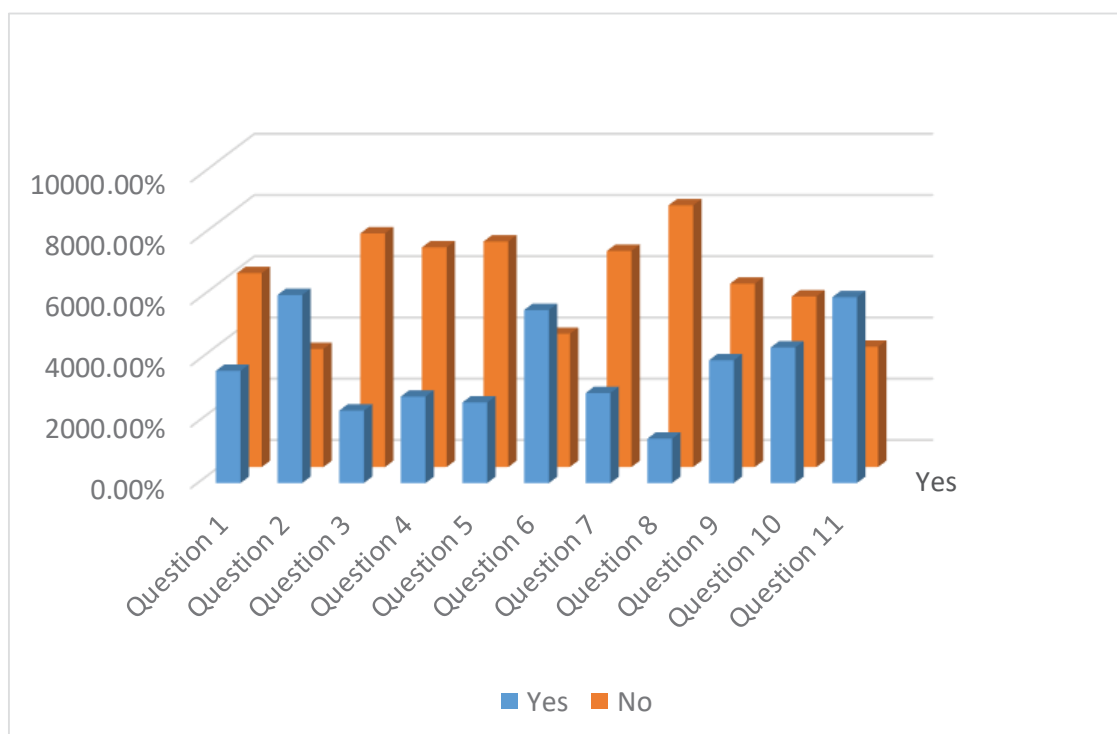


Figure 1. Results obtained in the evaluation questionnaire

The trade names of bisphosphonates are very important, especially the usual ones. 56.5% of dentists do not know the commercial name of bisphosphonates, but 43.5% are aware of them.

When the patients inform the dentists that they are being treated with bisphosphonates, 70.6% of the dentists send the patients to the specialist to stop the treatment.

The bisphosphonate treatment is prescribed by the specialist doctor and its administration should not be interrupted by the dentist, a fact performed by 85.5% of dentists included in the study group.

59.9% of the dentists studied perform antibiotic prophylaxis during dental treatment, a prophylaxis that is not indicated by a specialist. Instead, 40% perform the maneuvers without taking into account the patient's ailments.

When the doctor is informed by the patient that he is under treatment with bisphosphonates, 55.7% of the studied group redirect the patient to the maxillofacial surgery service.

The presence of bisphosphonates in the bone matrix up to 10 years after their administration is known only 39.3%. 60.7% have no knowledge of this fact.

DISCUSSIONS

The results obtained after analyzing the questionnaires applied to dentists in the western part of Romania draw attention to the frequency of the anamnesis and their knowledge about the oral effects of bisphosphonates and the management of patients undergoing this treatment.

Osteoporosis, Paget's disease of the bone, and oncological diseases are diseases that have included bisphosphonates in their treatment. Thus, targeted questions about these ailments are needed to find out whether patients are or have been treated with bisphosphonates. Of these three, the highest incidence is the question related to oncological

diseases (76.3%), followed by the question about osteoporosis (63.4%) and then about Paget's disease (38%).

Lerman MA. Et al, have highlighted the ambiguity of doctors in this country about how to manage this disease, especially in the effectiveness of surgical treatment, adjuvant therapies and the use of minimally invasive dental therapy for patients with bisphosphonates treatment (10,11), as evidenced in the present study there are some certain ambiguities in the management of patients treated with bisphosphonates(12).

The main adverse effect of bisphosphonates is osteonecrosis of the jaws, an effect that occurs in most cases after bleeding operations in the oral cavity. Thus, dentists must know very well the working protocol for these patients. The side effects of bisphosphonates are known by 71.8% of the studied doctors, while 28.2% have no knowledge of these manifestations in the oral cavity, and represent a risk of not providing proper treatment, performing some dental procedures which can cause osteonecrosis. The usual trade names for bisphosphonates should be known to dentists, as most patients only know them without knowledge of the name of the active substance. When the dentist informs the patients that they are being treated with bisphosphonates, 70.6% of them send the patient back to the specialist to stop the administration of bisphosphonates, a treatment that cannot be interrupted by the dentist. Surgical procedures in these patients must be done in the maxillofacial surgery service, which is performed by 55.7% of dentists, and not to be performed in regular offices under antibiotic prophylaxis. The presence of bisphosphonates in the bone matrix up to 10 years is very little known by dentists in this group, and by that, they risk producing osteonecrosis of the jaws even after stopping treatment. Although there are some limitations in understanding the etiology of osteonecrosis of the jaws secondary to bisphosphonate treatment and the risk factors are diverse, dentists need to know the side effects of the therapy and working protocol regarding these patients. (13, 14)

Lana El Osta, with collaborators, applied a questionnaire regarding osteonecrosis of the jaws secondary to the bisphosphonate treatment to a group of 137 doctors, and the results revealed poor knowledge regarding this complication. (15) Although the correlation between bisphosphonate therapy and osteonecrosis of the jaws has been discovered relatively recently, the severity of the complications leads to the need for a thorough knowledge of the implications of this treatment. (16) The risk factors are the type of bisphosphonate administered, the duration of treatment but also the method of administration, intravenously or orally. (17) Therefore, dentists need to know the classes of bisphosphonates and their side effects in order to achieve good management of patients undergoing this treatment. (15) The limitations of the study are the discrepancies between the answers, which indicates the existence of uncertainty in the patient management under bisphosphonate treatment. Bisphosphonate therapy is a major risk of developing jaw osteonecrosis. The detailed history of the patients and the communication with the doctors who prescribe this treatment must be as effective as possible during the dental treatment.

CONCLUSIONS

Despite the fact that the literature is abundant in information on bisphosphonates and their side effects, there are dentists who do not know the effects of these drugs.

In addition to ignoring the patient's bisphosphonate treatment, dentists perform maneuvers on the dentomaxillary apparatus, which can inevitably lead to a deterioration of the patient's entire clinical condition.

It is important that each dentist perform a detailed history and be aware of the medical management of patients undergoing bisphosphonate treatment. Therefore, all physicians need to be trained in how to approach patients following this treatment.

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