IMPLICATIONS OF THE MAIN FACTORS IN POSTEXTRACTIONAL COMPLICATIONS

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ABSTRACT: The purpose of this study is to identify the main factors leading to two postextractional complications in current practice, postextractional alveolitis and postextractional haemorrhage.

Material and method The group of patients was represented by a number of 133 persons who presented at the Maxillofacial Surgery Clinic in view of specialized therapeutics, represented by the dental extraction, those dental units which can’t be preserved any more, according to the clinical and paraclinical selections. Results and Discussions We noticed a significant dependence of the incidence of post-operative alveolitis relative to the dento-periodontal condition specific to the extracted tooth. The installation of the post-treatment alveolite is correlated with the dento-periodontal pathology which proposed the extraction. The distribution of patients undergoing dental extractions on “the patient's territory” variable was: cardiovascular disorders 31%, metabolic disorders 16%, pulmonary diseases 9%, neurological disorders 7%, ”apparently” healthy patients 37%. Conclusions: The inflammatory condition prior to dental extraction is a real predictor for post-surgical complications. Oral health is a prediction factor for postoperative disease. Particularly patients with multiple dento-periodontal problems show a high risk.

Keywords: postextractional alveolitis, postextractional haemorrhage, dental extraction

Introduction
Dental extraction is a work with a very high weight in dental practice. Some undesirable aspects are the complications that can occur, two of which with more importance are: the post extraction alveolitis and haemorrhaging complications[1,2].
This argument is supported by the frequent occurrence of post-operative alveolitis associated with pre-existing infections, especially with periodontal or pericoronary disease, and the reduced incidence of this complication after local or general treatment with antibiotics[3,4].

Data from the literature is varied on the role of the preexisting infection, Krough supporting this link but no significant statistical data between the alveolite frequency in the case of inflammatory lesions in cases where the inflammation was not present[5,6,7].
Recent studies show that in pericoronarite abounds spirochetes and fusobacteria in direct smear research. Their presence in the pericoronarite would be the explanation for the high incidence (up to 88%) of the
alveolitis after the extractions of the wisdom teeth[8,9,10,11].

**The purpose** of this study is to identify the main factors leading to two postextractional complications in current practice, postextractional alveolitis and postextractional haemorrhage.

**Material and method**
The group of patients was represented by a number of 133 persons who presented at the Maxillofacial Surgery Clinic in view of specialized therapeutics, represented by the dental extraction, those dental units which can’t be preserved any more, according to the clinical and paraclinical selections.

**Results and Discussion**
In patients from the study group where dental extraction was performed, the main pathological conditions that motivated the indication of extraction were: root debris: 38%, congestive pericoronitis: 7%, acute pulpar lesions: 10%, Pulpar gangrene: 9%, chronic marginal periodontitis: 24%, chronic pericoronitis: 4%, chronic periapical lesions: 6%, acute apical periodontitis 2% (Fig.1).

![Fig.1 The main pathological conditions that motivated the indication of extraction](image)

We noticed a significant dependence of the incidence of post-operative alveolitis relative to the dento-periodontal condition specific to the extracted tooth.

The installation of the post-treatment alveolite is correlated with the dento-periodontal pathology which proposed the extraction. By particularising the specific tests for each type of dento-periodontal disease that recommended dental extraction correlated with the post-treatment alveolar index, we obtained the following data: There is a close correlation between the root radical diagnosis and the incidence of post-operative alveolitis; There is a close correlation between the congestive pericoronaritis diagnosis and the incidence of post-operative alveolitis (11%).

We can conclude that the inflammatory condition preceding dental extraction is a real
predictor for the post-treatment of the alveolitis. Oral health is a prediction factor for postoperative disease. Particularly patients with multiple dento-periodontal problems show a high risk. The significance of this finding lies mainly in the exacerbation of oral microbes (in the presence of dento-periodontal diseases) in patients where oral hygiene is not a strong point, an exacerbation which results in immediate contamination of the clot and implicitly the installation of post-operative alveolitis.

Wound healing is influenced by non-steroidal anti-inflammatory drugs that generally delay the process, but some drugs in this class stimulate collagen synthesis and thus promote soft tissue healing. NSAIDs are widely used due to the wide range of applications indicated, especially after selective cyclooxygenase-2 inhibitors have been obtained.

Nonsteroidal anti-inflammatory drugs inhibit bone healing, an important role in this process by playing prostaglandins that participate in the anti-inflammatory response by stimulating osteoclast activity and thus resorption. The effect of commonly used anti-inflammatory drugs (IBUPROFEN and DIC LOFENAC) on the healing of the post-extracting wound is to inhibit the inflammatory response - these drugs produce wound healing delay, as demonstrated both histologically and by measuring the dry mass of the formed granulation tissue.

In this study, we attempted to demonstrate that associated drug therapy is a real predictor for the post-operative installation of the alveolite.

The primary statistical analysis of the data revealed the following: of the total of patients who experienced post-surgical alveolitis: 65% of patients were regular consumers of NSAIDs - non-steroidal anti-inflammatory drugs - ASPIRIN, ADVIL, RUPAN, 35% denied this habit (Fig.2).

![Fig.2 The correlation between non-steroidal anti-inflammatory and post-extractional alveolitis](image)

We can conclude that regular consumption of anti-inflammatory drugs is a real predictor for the installation of the post-treatment alveolite.
We have tried to demonstrate that associated systemic pathology is a real predictor for installing the post-operative alveolite. The distribution of patients undergoing dental extractions on "the patient's territory" variable was: cardiovascular disorders 31%, metabolic disorders 16%, pulmonary diseases 9%, neurological disorders 7%, "apparently" healthy patients 37% (Fig.3).

The primary statistical analysis of the data revealed the following: of the total of patients with post-surgical alveolitis, 16% were diabetic and 31% had a cardiovascular disease and 37% were in the "apparently healthy" category they denied this practice.

We can conclude that the presence of a pathological field is a real predictor for the installation of the post-operative alveolite, ideal candidates being patients with diabetes. Post-surgical bleeding may occur at any time as a complication of dental extraction, with local factors or general factors as causes. The particularity of this dental extraction complication lies in the fact that the physician should immediately resort to firm measures to solve it as soon as possible because the prolonged bleeding may put the life of the patient at risk. Therefore, surgery should be well justified and applied only when conservative methods are ineffective.

Knowing the patient's general pathology and medication are major desiderata to prevent post-operative haemorrhagic complications. Dentist’s activity and dental alveolar surgeon’s involves an interdisciplinary approach to patients with pathologic to optimal therapeutic conduct to avoid the occurrence of any bleeding complications.

Any surgery involves risk and therefore only a practitioner who carries out a thorough investigation of the field through rigorous anamnesis, a correct and complete clinical examination along with paraclinical examinations, will be able to make the right decision.
decision and will manage to treat each individual case individually being the premises of a successful therapy.
The risk factors due to the patient and which may lead to post-operative haemorrhage complications are:
✓ Physiological risk factors
✓ Pathological risk factors
✓ Anticoagulant medication.

These factors can act individually or together and must be identified during anamnesis or after paraclinical examinations.
Although there have been numerous studies on groups of patients to try to determine a correlation between the sex of the patient and the occurrence of bleeding maxilla findings are unclear.
Tefferi (2001) noted that fibrinolysis occurs during the last months of pregnancy or during birth as a result of the entry of thromboplastin into the placental rupture area and due to placental factors that cause plasminogen activation with massive plasmin release.
Many authors believe that the frequency of post-surgical haemorrhage is higher in women, even if they are not undergoing birth control. In women, the risk of post-surgical haemorrhage increases when using oral contraceptives.

The correlation of the patient's sex with the incidence of post-operative haemorrhage is quite difficult to achieve. Because in the clinical trials so far the methodology and patient batches have varied, there is no consistent incidence rates.
Giglio focused his attention on a group of 1,914 patients requiring dental extractions to stratify a variety of clinical features, and they studied the role of oral contraceptives.
In the published Kearon study, Hirsh showed percentages of post-surgical haemorrhage, 95% confidence intervals and reports for women who do not use oral contraceptives, women using contraceptive pills, or women who are not known to consume oral contraceptives compared to men.
The hierarchy of postoperative complications recorded analyzed lot of patients was dominated as follows: postoperative alveolitis: 10%, postextractional haemorrhage: 8%, postoperative disease type manifestations: 82%(Fig.4)
The primary statistical analysis of data targeting the lot of patients who experienced post-operative bleeding revealed the following: The gender distribution of the lot of patients in whom we detected post-surgical haemorrhage was as follows: women - 41% and men - 59% (Fig.5).

We believe that the sex of the patient is considered as a risk factor in inducing consecutive tooth extraction complications. 52% of cases of post-operative alveolitis are influenced by the patient's gender. The significance of this finding lies mainly in the exacerbation of oral microbes (in the presence of dento-periodontal diseases) in patients where oral hygiene is not a strong point, an exacerbation which results in immediate contamination of the clot and implicitly the installation of post-operative alveolitis. The presence of a pathological field is a real predictor for the installation of post-operative alveolitis, the ideal candidates being patients with diabetes.

Conclusions
1. The emergence of the post-surgical alveolitis correlated with the dento-periodontal pathology that recommended the extraction indication, demonstrating that its installation is significantly influenced by the dento-periodontal pathology.

2. The inflammatory condition prior to dental extraction is a real predictor for post-surgical complications. Oral health is a prediction factor for postoperative disease. Particularly patients with multiple dento-periodontal problems show a high risk.

3. Regular use of anti-inflammatory drugs is a real predictor for post-surgical alveolitis.
References