The Need of Pre and Pro-implantation Preparations and a Tissue Evaluation in the Context of Using Various Biomaterials

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The purpose of the study is to quantify the parameters underlying the necessity and opportunity of the preparatory maneuvers for preimplantation, represented by the patient's general condition, environmental factors and clinico-biological indices characterizing the periodontal support and muco-bone parameters that influence the therapeutic options and chosen treatment plan, setting out the percentage of cases solved through implant prosthetic rehabilitation over other treatment alternatives. In all the tissue fragments processed histological in contact with the metal-acrylic restorations one found leukocyte infiltration, which betrays inflammatory tissue reactions to these types of restorations. Bimetallism, metalozes, as a number of issues of biocompatibility led to the idea of replacing metals by ceramic masses with high property, which stands on the Al_2O_3 and ZrO_2 especially. The manoeuvres in preparation of the preimplantation are absolutely necessary for both non-specific nature as well as for more specific in order to provide an optimal prosthetic field for treatment variants, being represented by implant-prosthetic rehabilitation.

Key words: tissue reaction, bimetallism, augmentation, bone density

The evaluation of need and opportunity for pre-implantation preparations is a pertinent starting point in order to argue and vary the choice treatment solution imposed by a number of parameters of particular relevance for the overall condition, loco-regional and local, odonto parodontic and muco-bony issues[1,2]. The statistical study conducted reveals the state of patients evaluated with the aim of outlining the real status underlying the importance and need of preparation for preimplantation, absolutely necessary for a good therapeutic result in time [3,4]. As a consequence, the clinical and laboratory evaluation with high accuracy is the first essential step to develop a proper diagnosis and to determine the correct solution of choice and all the stages of preparation and treatment [5,6].

Experimental part

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Material and method

We studied a group consisting of 145 patients aged between 35 and 75 years old who came in The Clinical Base for Education of the Faculty of Dental Medicine and in private practice, they signed a consent informed form to participate in this study.The lot of analyzed patients is diagnosed with large partial edentulous of varied etiology and different complications due to not having prosthesis or having an incorrect one, with complete prosthetics, incomplete or not having prosthetics. We used statistical analysis and histological evaluation , specifically for tissue reaction.

Results and discussions

We found a prevalence of females in proportion of 60% compared to 40% of male patients, aspect that influences the predominance, generally of the aesthetic characteristics for the future prosthetic restorations, data that interfere with the defining characteristics of morpho-functional prosthetic field, key issues underlying the choice of therapeutic solutions and a plan treatment of choice in accordance with the type of edentulous and complications installed, and the general condition, too (fig.1).

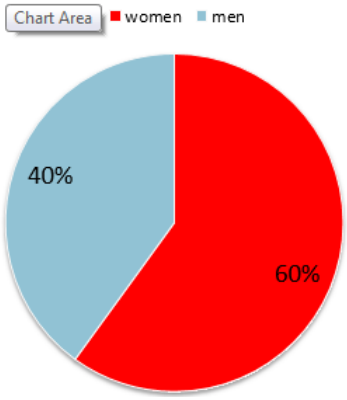

Fig. 1. Sample's structure on sexes

From the group of patients rated, mostly came from urban - 70%, 30% coming from rural, the provinience factor related to life and work conditions, elements that are reflected in the oro-dental status, equally influencing the therapeutic approach .

The general condition of patients is an index that influences the conduct of the therapeutic maneuvers in the oro-maxillo-facial territory, influencing, delaying or canceling certain therapeutic options. Analyzing the general status of the patients evaluated, we found that 30% of patients experienced a general condition affected by cardio-vascular diseases in a compensatory stage, which is the most common situation; a 10% had general impaired of cardiovascular decompensation; 20% suffer from compensated diabetes, while 7% had de-compensaed diabetes. Important rates that influence the plan are 10% for liver disease, kidney disease 8%, 7% for bleeding disorders, neurological diseases 5 and 3% for mild mental disorders (fig.2).

General preparation has unspecific aims, primarily framing the patient to some risk group, according to which

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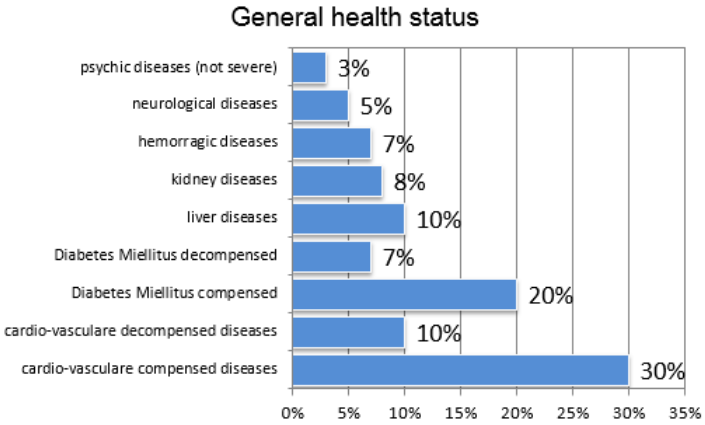

Fig. 2. The overall state of the batch of patients

it will set a certain conduct, both pre-surgical, post-surgical and surgical. The importance of this evaluation for placing the patient in a certain category is to determine the risks to which he/she is subjected. These are: the risk of anesthetic, the bleeding risk, risk of infection and the risk of contagion [7, 8].

When required, the physician who will perform the surgery, could ask for an interdisciplinary consult with specific condition found in the preliminary consultation. The opportunity to intervene in this case will be agreed, but always with the specialist. The latter indicates preanesthetic premedication, presurgical, postsurgical care and precautions during the intervention.

These contraindications apply to any form of implant, including both regular ones in any dentalintervention and general contraindications, specific for the endosseous implants[9,10].

Implantology as intervention sums up:anesthesia;tooth extraction - very often; creating endobone slot for the future implant;application of the implant;pursuit of osseointegration,prosthetic reconstruction structure and its application on implants.

We note a 65% female smokers for patients and a 86% at the level batch analyzed, with more than 20 cigarettes per day (fig.3). These percentages are important in the correlative vision to influence this risk factor in the etiology and clinical evolution of different forms of oral pathology and treatment influencing the variant chosen, especially with implant-prosthetic rehabilitation.

Deep sites higher in smokers reported Stoltenberg et al. (1993) and a higher bone loss demonstrated by Grossi et al. (1995) shows the association between tobacco use and increased risk of periodontal disease [13,14].

Bergstrom et al. (1991) measured the distance between radiographic cement enamel junction and interdental bony septum which was found to be significantly higher in smokers compared to non-smokers and proportional to the amount of tobacco consumed. Norderyd and Hugoson (1998) found that smokers have a higher predisposition to severe periodontal disease compared with non-smokers. (Kinan et al., 2000)

We also analyzed the classes edentulous patient .The most common situation was the class I Kennedy - found in 30% of cases for women and 25% of cases for men, followed by the prevalence of Kennedy Class II (20% of cases both for women and for men) and class III (15% of the women and 19% men). A significant percentage of patients (12% women and 16% men) had edentulous class IV Kennedy edentation subtotal was recorded a 12% in women and 15% for men and the lowest incidences were registered for classes of total edentulous (8% for women and 4% for men) (fig.4).

The need of ablation of fixed restorations evaluated is 45% for metal-acrylic restaurations, 25% for metal-composite, 7% for fixed restorations metal-ceramic, a rate of 255 could be maintained being a recent data and an appropriate from the point of view of morfological restoration (fig. 5).

In all the tissue fragments processed histological in contact with the metal-acrylic restorations one found leukocyte infiltration, which betrays inflammatory tissue reactions to these types of restorations (fig.6).

Bimetallism, metalozes, as a number of issues of biocompatibility led to the idea of replacing metals by ceramic masses with high property, which stands on the Al_2O_3 and ZrO_2 especially. Thus, the metals tend to be replaced in areas where they were considered supreme for over a century. In this respect, it found that ceramic on zn pieces or those allceramic have not interacted at all on the the tissue level [11,12].

Regarding the need to optimize the muco-bony support in the jaw, it is reflected in the need for interventions for sinus lift in 35% of cases, rehabilitated the very stunted ridges at the level of the posterior maxillary, augmentation

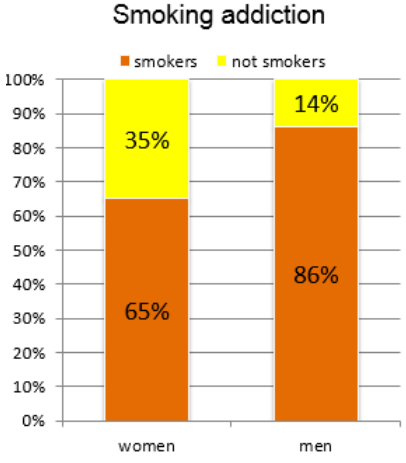

Fig. 3. The prevalence of smoker patients

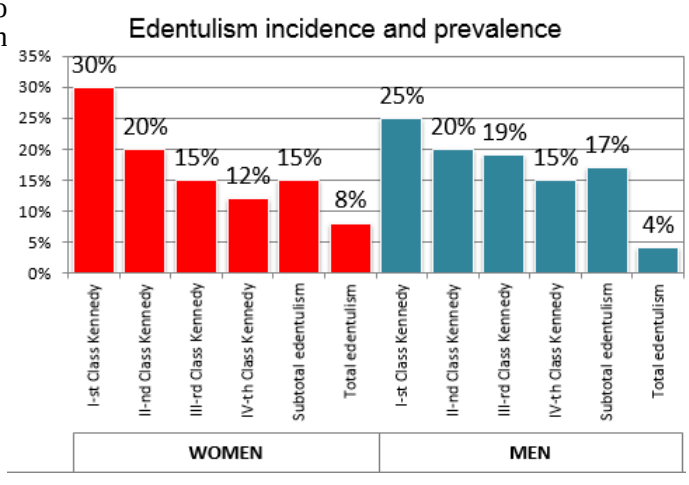

Fig. 4. Aspects of incidence and prevalence of toothless.

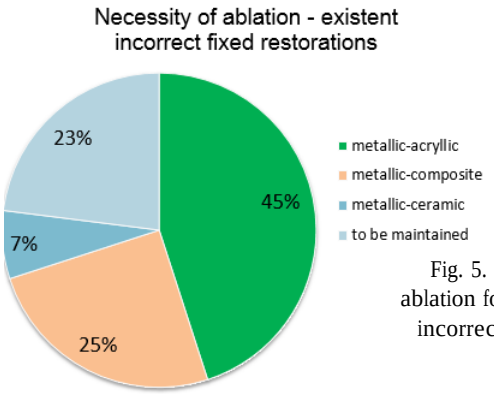

Fig. 5. The need of ablation for existing fixed incorrect restorations

Fig. 6. Aspects of metallic-acryllic restorations. Aspects of histological exam of tissue level

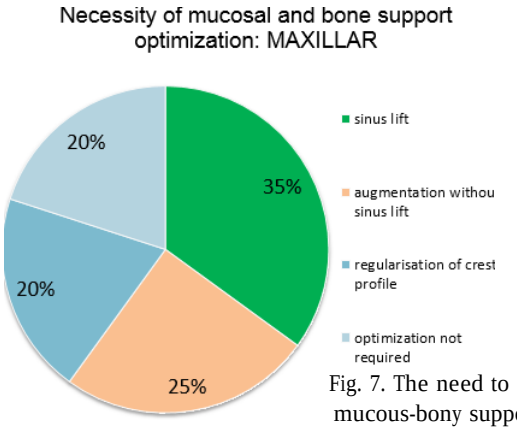

Fig. 7. The need to optimize the mucous-bony support -maxillar

as a method of optomization is found as a need for 25 % of cases, followed by 20% of the need to regularize profile, and a 20% that do not require periodic optimization, this rate is characterized by clinical and biological indices, muco- bony positive for the maxilla.

The need to optimize support muco-bone in the jaw by addition bone is present in a proportion of 45% of cases, followed by regularization profile ridge at a rate of 355 cases and a 20% cases shows no need for interventions preparatory this percentage currently indicated clinico-biological-mucous-bony positive (fig.8).

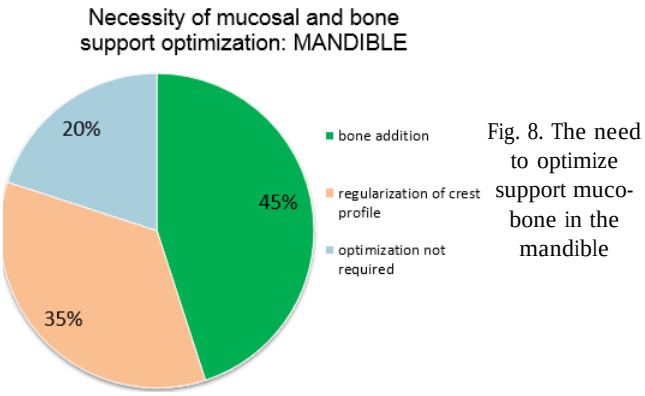

Fig. 8. The need to optimize support muco-bone in the mandible

Conclusions

From the statistical results of the analyzed batch, it is clearly indicated the need and opportunity for preimplantation training interventions in full compliance with local and general aspects of the analyzed batch.

The manoeuvres in preparation of the preimplantation are absolutely necessary for both non-specific nature as well as for more specific in order to provide an optimal prosthetic field for treatment variants, being represented by implant-prosthetic rehabilitation

The general condition remains an extremely important factor that influences the chosen therapeutic solution.

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