

Guest Editorial

Stomatologic concept of gerontology

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When the process of aging sets in slowly, people can adapt to their changing conditions. However, premature aging abruptly alters the biologic background of the organism, shortening human life. That is why prophylaxis (prevention of the factors that cause premature aging) and optimal treatment, when needed, make old age more tolerable and provide, at the same time, possibilities for biosocial realization of the elderly.

My concept of gerostomatology is based on the fact that structural and functional alterations of the masticatory system, as a result of stomatologic diseases and pathologic states, set in comparatively early. The human masticatory system may begin to age before the other organs and systems in the organism, and, depending on the stomatologic health measures taken, its condition may cause or prevent symptoms of premature aging, ie, accelerate or retard the aging process. Thus, for example, periodontitis causes mucosal lesions and loss of alveolar bone tissue, affects the functions in the oral cavity, and influences the digestive system.

The extraction of a permanent tooth (or teeth) leads to destructive morphologic bone changes (resorption and atrophy), impairs the occlusion-articulation balance, causes functional disturbances, and necessitates structural and functional reconstruction of the masticatory system. If treatment is absent, late, or inadequate, the condition may be expanded or aggravated. In childhood, such reconstructions usually lead to maxillo-mandibular deformities, which, for their part, may stimulate the structural and functional changes of mature and advanced age.

In this sense, according to the concept:

1. The fight to preserve each permanent tooth of the dentition, the tissues, and the organs in the oral cavity and masticatory system should be led not only to preserve function and esthetics, but also to prevent premature aging.
2. Stomatologic intervention in cases of incipient partial loss of teeth should provide a potent prophylactic effect against the changes and further loss of teeth and premature aging.
3. Stomatologic intervention in cases of advanced loss of teeth (reduced dentition) should prevent or postpone the total loss of teeth and aging by means of optimal prosthetic treatment.
4. Stomatologic treatment in cases of total loss of teeth should provide prosthetic rehabilitation of the masticatory system and prevent (for as long as possible) the appearance or aggravation of structural, functional, and senile changes in the prosthetic field, maxillofacial region, and the patient as a whole.

If we assume that the masticatory system often ages first in the organism, then the measures for its preservation and rehabilitation prove to be the first "battle" against premature aging, and aging in general. Hence, we are led to the conclusion that stomatologic problems are extremely significant, as well as the inference that all that contributes to their solution is justifiable, useful, and extremely important from medicobiologic and social viewpoints.

In this sense of the concept, two indispensable, basic tasks must be fulfilled for prevention of premature aging of the masticatory system. These requirements are characterized by a prophylactic trend and special prophylactic and treatment activity following loss of a single tooth or group of permanent teeth:

1. Preservation of the prosthetic field for optimal rehabilitation of the masticatory system

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2. Correction of the prosthetic field for improving or creating conditions for optimal, long-term prosthetic treatment

The fulfillment of the first task requires the creation of special methods within the limits of a new prophylactic system to provide correct development of the maxilla and mandible after extraction of permanent teeth during childhood and adolescence. The system would be realized mainly by application of a new type of "immediate" intercoronal space maintainer and use of immediate intraosseous implants, both as space maintainers and "roots" for further reconstruction with veneer crowns.

Preservation of the prosthetic field makes necessary the use of the most up-to-date medicobiologic methods for treatment with fixed and removable prostheses (using modern attachments). Further studies of the age-related changes in the oral environment are also needed. A system of control and corrections must be implemented to provide an equilibrium and long-term prophylactic and functional effects from prosthetics. Restorations should be also carried out to preserve the hygiene of the prosthetic field and prosthetic constructions.

Fulfillment of the second basic task requires expanded application of already-tested and new dental implant systems for reconstruction of the alveolar bone and for prosthetic dentistry and necessitates the perfection of surgical technique in prosthetic surgery and implantology.

Hence, for complex solution of the basic tasks of the concept, rapid development is necessary of several recent trends in stomatology, such as orthodontics (preprosthetic space maintainers), general stomatologic and dental implantology, preprosthetic surgery, and special dental prosthetics; the scientific community must include specialists of various stomatologic, medical, and technical specialties.

Undoubtedly, gerostomatologic problems are associated with all stomatologic disciplines, since the fight to preserve the masticatory system starts with stomatologic prophylaxis and complex therapeutic measures in patients of all ages; however, the disciplines most involved would probably be prosthetic dentistry, periodontology, and oral surgery.

I have presented in brief my own views on the problems of gerostomatology. I make claims neither for the comprehensiveness of the setting nor for thoroughness of the formulations, but I am convinced of the veracity of the assertion: the aging of human organism often starts with the premature aging of the masticatory system. No more is required than to imagine the appearance and condition of an edentulous young person without dental prostheses.

I believe that gerostomatologic problems should be set in their due place in gerontology, and that stomatology as a whole (science and practice) should be regarded and treated as a markedly prophylactic and important medical-stomatologic specialty.