ORIGINAL RESEARCH PAPER

Dentistry

A REVIEW : THE ELDERLY PATIENTS IN DENTISTRY

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ABSTRACT

The aim of this review is to determine the factors that cause oral and dental health problems in the elderly. Maintenance of a natural, healthy and functional dentition is as important for healthy aging as maintaining physical and mental abilities. Over the past century, scientific progress has significantly increased life expectancy, people's living standards are improving and people are paying more attention to hygiene conditions. The role of oral and dental health on the general health status of the elderly population is too great to be ignored. In a number of cases, in addition to the effects of Aging on the orofacial region, acquired systemic diseases and the medications used in their treatment cause unpleasant changes in the oral cavity. Tooth loss, abrasions, periodontal diseases, dental caries, lesions in the oral mucosa, etc. cause elderly patients to be unable to perform oral functions well enough. Speech difficulties, muscle atrophy and changes in taste can also be observed. Elderly people need to be treated in cooperation with medical doctors and dentists who monitor the general health of the elderly and ensure good dental care.

INTRODUCTION

The World Health Organization defines people 65 years of age and older as "elderly". Aging is defined as a universal process that occurs in every living being and causes a decline in all functions [1]. Oral and dental health problems, is one of the most common public health problems in the world [2]. The Aging process affects the whole body and therefore also the health and functions of organs and tissues. The area of the mouth also changes throughout life. In geriatric preventive dentistry, oral health is an important issue that can directly or indirectly affect the overall health and the quality of life of elderly patients. This tendency, which apparently will not reverse, will show that in the short to medium term we will confront a population of elderly people, and hence we will have to take on the Challenge of providing the special stomatologic care demanded by this group of patients. It demands a thorough knowledge of the etiologic factors that determine the specificity of oral diseases at this age, as well as the pathogenesis and adjuvant factors [3]. The most Common oral diseases among elderly patients are: dental caries, tooth loss, periodontal disease, dry mouth and oral precancer/ cancer [4]. This distinction can affect the treatment plan, as the aim of treatment in elderly patients is more strongly guided by short-term goals and asymptomatic function rather than aesthetics and long-term stability [5]. In order to take the necessary preventive measures in oral and dental health and to determine the treatment needs of the elderly, it is necessary to determine their oral health status and to learn their oral care habits [6]. Surveys showed that oral health in toothless individuals is extremely inadequate and that the majority of elderly patients with dentures have poor denture hygiene [7]. Peltola et al. (2007) reported that the information given to total prosthesis patients about prosthesis hygiene was effective in increasing prosthesis cleaning [8].

The objective of this review is to present the oral dental health problems that occur with aging and the etiology and symptoms of these problems together with the current.

Many changes occur in the mouth with Ageing. The following changes can be observed in the elderly:

Bone Matrix

Structural and morphological bone changes are accompanied by continuous resorption and apposition. In elderly individuals, resorption is greater than apposition because metabolite activities have slowed down and the cell death has begun. Resorption is observed when the rate of cell death exceeds the rate of new cell formation. Resorption is higher in the mandible than in the maxilla. When this progression becomes too severe, the bone crest in the mandible becomes thinner and a knife-edge shaped structure appears. This situation makes the use of classical prostheses and implant applications difficult [9,10].

Nerve ends such as the mandibular canal, incisive canal and foramen mentale, which approach the surface with the resorption of the alveolar bone in the mandible, cause pain and paresthesia in prosthesis use. The maxilla also reduces in volume as a result of alveolar bone resorption and the maxillary sinus is separated from the oral mucosa with just a thin layer of bone. Sometimes bone resorption may occur due to pathological conditions, systemic disorders or faulty prostheses. as a result of bone resorption, the mucosa becomes unsupported and labile crests are shaped. Bone mass decreases as we age due to resorption in the jawbone, which can lead to recession of the periodontal gums and an increased risk of tooth loss and trauma [11,12].

In the elderly, there is a decrease in the vertical dimension of the lower third of the face due to increased tooth loss. Control of the perioral muscles decreasesWrinkles appear on the face and lips. This causes loss of aesthetics and function in elderly patients [9, 10].

Tooth Loss

An important part of tooth loss in the elderly is caused by dental caries and periodontal diseases [13]. Tooth loss is more common in the elderly with health problems. In patients with severe tooth loss, nutritional problems, related systemic problems and speech problems occur more frequently. As a result of tooth loss, the patient's vertically dimension decreases and this causes prolapses in the face. In Addition, the Dentures do not fit well into the mouth or requiring constant correction may cause difficulties in prosthesis adaptation [11,14,15]. Chewing function is particularly important for elderly peopleIt is important to maintain a nutritionally complete diet to avoid sarcopenia and frailty syndrome. Good oral aging is related to adequate function and comfort [16] .

For this reason, the elderly should have regular dental examinations and dental treatment to prevent tooth loss. Also, when they confront problems such as missing teeth, It is very important to select and use suitable prostheses.

Periodontal Disease

Periodontitis is a chronic inflammation of the tissues supporting the teeth and can lead to the formation of spaces between the teeth and periodontal tissues, loss of the surrounding tissue (loss of attachment) and bone, which can lead to movement of the teeth and the subsequent need for tooth extraction [17].

There is strong evidence that periodontitis is a risk factor for certain systemic diseases, and dysfunctional oral health has been associated with chewing and nutrition problems, particularly among the elderly, who have a very negative effect on their quality of life [18]. Periodontal diseases, which show a chronic development that starts silently, usually occur with the accumulation of years of eating habits, oral hygiene applications and oral habits [13]. Effects of aging on periodontal tissues are more severe in people with poor oral hygienePeriodontal disease becomes more common as we get older and it could be a serious problem [19,20].

In the elderly, the presence of periodontopathogens (microorganisms that cause periodontal disease), smoking, lack of regular dental check-ups, lack of flossing, depression and memory loss also increase the severity of periodontal destruction. Decreased immune response with aging may make these patients more susceptible to periodontal diseases [21].

DRY Mouth (Xerostomia,Kserostomi)

The increases in the life expectancy of the population have increased the importance of dry mouth as a health problem. High incidence of dry mouth and salivary Hypofunction has been reported in more sensitive elderly [18]. Hyposalivation is a risk factor for older patients with poorer oral health and oral oral Candida colonization [22]. As a result of this decrease, the risk of caries, periodontal diseases, chewing problems, increase in oral candida, decrease in the sense of taste, difficulty in speaking and swallowing, bad breath, burning mouth syndrome, etc [23,24]. Also, saliva production may decrease due to anxiety, depression, chronic mouth breathing, radiation therapy, dehydration, hypothyroidism, diabetes mellitus or insipidus, nephritis, Sjogren's syndrome, menopause, tobacco use [25-27]. Elderly people use a lot of medicines and some medicines can cause dry mouth. For example, anticholinergic, antidepressant, antipsychotic, diuretic, antihypertensive, sedative and anxiolytic, antihistamine, opioid analgesic agents, and nonsteroidal anti-inflammatory drugs can cause dry mouth [25,28]. People with diabetes also often often experience dry mouth. High blood sugar concentrations can cause damage to the salivary glands, which can reduce the amount of saliva flow [28]. Poor glycemic control may contribute to a more deteriorated periodontal condition, proving the interrelationship between periodontal disease and diabetes [18].

Water consumption should be increased to prevent or reduce dry mouth in the elderly, tobacco products should be avoided, can use moisturizing mouthwashes and, if necessary, they can get information from their dentist about medications that cause dry mouth. In addition, the dentist may recommend salivary products.

Changes Of The Tongue

The tongue becomes less sensitive with age and may have a reduced sense of taste. It is more sensitive against warm and cold stimuli. Because as we age, the tongue becomes smoother and the filiform papillae are decreasing. The incidence of white or red spots on the surface of the tongue increases in old age, as a result of vitamin deficiency or oral infections can develop tongue ulcers [25,26,28].

Oral Mucosal Lesions

Oral diseases are at higher risk of developing in old age. With age, lesions may develop, usually due to the effects of systemic diseases, nutritional disorders, side effects of medications and oral infections. Traumatic injuries can also be common [29].

Oral mucosa is being affected by aging and becomes thinner, smoother and oedematous. At the same time, there is loss of elasticity and a mottled appearance. Also, wound healing is reduced [28].

With age, the oral mucosa becomes susceptible to several pathoses, such as Candida infections

1) Denture Stomatitis

It is the most common oral mucosal lesion in elderly people who use prostheses. These inflammatory changes, which occur as chronic erythema in the mucosal tissues in contact with full or partial prostheses, are called prosthesis stomatitis. High vertical dimension, inappropriate occlusion and articulation, parafunctional habits such as tooth bruxism, teeth clenching and grinding, and continuous wearing of the prosthesis all day are factors that facilitate inflammation of the mucosa. Predisposing factors can be radiotherapy, use of tranquilizing drugs, diabetes mellitus, iron and vitamin deficiencies, decreased salivation due to Sjögren's syndrome, etc., and immune system diseases. It can be a result of mechanical trauma, food accumulation, candida albicans infection [4,30].

2)Oral Cancers

In the Elderly, the risk of oral cancer increases. Oral cancers may appear as ulcers, lesions and tissue growths in the mouth [18]. Oral cancer is a serious threat to the health of adults and the elderly in both high- and low-income countries. Oral cancers are the eighth most common cancers worldwide and frequently occur in the lips, oral cavity and pharynx [31]. Cancer and its therapy may be responsible for significant anatomical changes in the oral cavity and problems with basic functions such as speech, chewing and/or swallowing and can significantly disturb the quality of life of various recovered patients [32].

3) Candida Infections

When saliva flow is reduced significantly, the oral flora changes. Reduced saliva flow can lead to increased Candida build-up, which can also increase the risk of oral Candidiasis. Other local factors contributing to oral Candidiasis are poor oral hygiene, poor prosthodontics, poor denture hygiene or prolonged use of dentures. In the elderly, these conditions are very common and can potentially contribute to the risk of developing a Candida infection. Reduced oral hygiene, low salivary pH and changes in the composition of saliva lead to microbial dysbiosis, increases the potential risk of oral diseases such as gingivitis, tooth decay and fungal infections [22,23].

4)Angular Cheilitis

It is an inflammatory condition of the corners of the lips that is erythematous, fissured, painful and desquamating. When it becomes deeper and a crust forms, bleeding may occur with normal oral function. It is frequently characterized by fissure formation in the corners of the lips in the elderly who use prostheses bilaterally. The corners of the lips become infected with Candida albicans found in patients' prostheses [34].

5) Epulis fissuratum (Irritation hyperplasia)

At the gingival mucosal margins where total or partial prostheses with poor mouth fit end, is a slow-growing, very frequently observed, hyperplasic, fibrous connective tissue lesion that develops due to prolonged chronic irritation [27,34].

6) Labile (Mobile) Crest

It occurs as a result of resorption of the alveolar crest and filling of this area with fibrous tissue as a result of severe chronic trauma. This tissue is a formation with a certain degree of mobility. It can be seen mostly in the upper anterior

regions of patients who carry upper and lower total prostheses. Also it may occur in any part of the alveolar crest with unbalanced distribution of masticatory force [35].

7) Stomatitis Medikamentoza

The longer the life span, the more drugs are used for acute and chronic diseases. The stomatitis observed as a result of systemic effects of drugs is called stomatitis medicamentosa (allergic stomatitis, stomatits venenata) [36].

8) Precancerous Lesions

They are lesions that remain latent for a long time but may show malignancy during their disease course. They are among the precancerous lesions atrophic-erosive lichen planus, leukoplakia (verrucous, nodular, erosive), erythroplakia, Bowen's disease, precancerous melanoma [37].

Precancerous formations such as leukoplakia and erythroplakia in the soft tissues of the mouth in the elderly are most commonly seen around the age of 65. Tobacco and alcohol are the most common risk factors [38].

Age-related Changes In Tooth Structure

With the ageing process, several changes occur in the teeth that are accepted as normal but are not diseases. These changes include: Wear of enamel, enamel crumbling, appearance of fracture lines, discoloration of sculpted areas and fracture lines, exposure of dentin that wears away faster than enamel, secondary dentin build-ups, and a reduction in the volume of pulp chambers and canals (this is usually radiographically observed) [28]. After the completion of root development, the pulp chamber and canals gradually decrease in volume because of the continuous lifelong production of secondary dentin [16,39]. There is also tertiary dentin formation, which is a restorative response to different extrinsic stimuli such as chemical irritants, caries and abrasion [40].

1) Wear of Tooth Enamel

With increasing age, enamel wears away due to normal attrition, abrasion, acid attacks (erosion), poor oral hygiene and other factors. This can lead to tooth sensitivity, pain and decay symptoms, in addition to various prosthodontic and endodontic problems. [25,41,42]. Tooth wear can cause the structure of the teeth to deform and fracture. There may also be a decrease in the retention of the prosthesis due to abrasion on the tooth surface. This makes it difficult to use prostheses and can cause damage to the periodontal tissues [15].

2) Caries

Caries is an important oral health problem among the elderly for a great variety of reasons: Rather than tooth extraction, an increase in treatment and care, age-related changes in saliva; poor diet; exposure of the root surface by periodontal recession; and a higher incidence of medical treatment with dry mouth as a side effect [18]. In a study in the United Kingdom, the prevalence of caries in tooth crowns among the dentate elderly was 22%, with 20% of 75–84-year-olds showing active root decay [43]. A history of active or previous periodontal disease is a risk for root caries, whereas the systemic concomitant diseases of aging may also increase susceptibility to this pathology [44].

3) Endodontic Problems

The pulp may undergo structural and functional changes in old age. Root canal treatment in elderly patients is often acknowledged as a major challenge due to technical difficulties resulting from calcified and confined pulp [45]. Increasing calcification of tooth pulp chamber and root canals can make pulp vitality testing more difficult during endodontic diagnosis and lead to incorrect results. In addition, cleaning and shaping calcified canals is technically challenging and requires patience and calm from the dentist [46]. Tooth microstructure changes with age, mineral content increases and organic content decreases [47]. This structure, called secondary dentin, attaches to the dentin facing the pulp and reduces the volume of the pulp cavity over a lifetime [16]. It is now accepted that secondary dentin formation is a process of cellular synthesis independent of external factors [40]. Tertiary dentin formation also leads to a decrease in pulp volume, tertiary dentin is a response of odontoblasts to various pathological processes, usually in the context of caries or abrasion. Tertiary dentin build-up does not correlate with age [48]. Calcification of the root canal, which increases with age, increases the technical difficulty of root canal treatment [25].

4) Decreased Pulp Reaction

With age, the number and activity of cells in the pulp decreases. This can slow down the healing process needed to reconstruct the teeth and surrounding tissues. In general, aging pulps can be considered "sclerosed" or "calcified," due to the continued deposition of regular secondary dentin. With age, the number of odontoblast cells decreases and the reparative ability of the pulp diminishes [49]. Decreases in pulp cell density may reduce pulp repair activity after restorative treatments, however, increases in dental dentin Thickness may help protect the pulp [49]. Endodontic problems in the elderly can also be caused by insufficient attention given to oral hygiene and health of the elderly [7].

CONCLUSIONS

As a consequence, it is important that the elderly take care of their oral and dental health and have regular dental check-ups. These check-ups are vital in the early detection and treatment of oral cancer and other problems. With regular check-ups, infections can be prevented and problems such as periodontal diseases can be diagnosed early and treated easily. In addition, good oral hygiene, a healthy diet, avoiding smoking and tobacco use can help reduce the risk of Dental and Oral health problems.

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