Preventive dentistry

Lecture (27)

Geriatric dentistry

Aging is a normal physiological process that every living organism has to go through and is considered to be inevitable in the cycle of life.

Geriatric dentistry, or Geriodontics is the delivery of dental care to older adults involving the diagnosis, prevention, and treatment of problems associated with normal aging and age-related diseases.

On average, people above the age of 65 years are expected to suffer from one or more chronic medical conditions that require consideration before initiating any dental treatment

The "elderly" segment of the population is diverse and has been subdivided into the following categories:

- People aged 65- 74 years are the new or young elderly who tend to be relatively healthy and active.
- People aged 75 - 84 years are the old or mid-old, who vary from those being healthy and active to those managing an array of chronic diseases.
- People 85 years and older are the oldest-old, who tend to be physically frail.

Health Status: The study of aging includes not only diseases that cause morbidity and mortality but also the conditions that cause disability and decline in independent functioning.

The aging process gives major results:

a) A reduced physiologic reserve of many body functions (i.e., heart, lungs, kidney).

b) An impaired homeostasis mechanism by which bodily activities are adjusted (i.e., fluid balance, temperature control and blood pressure control).

c) An impaired immunologic system, as well as related increased incidence of neoplastic and age-related autoimmune conditions.

Oral Assessment: A patient's teeth can demonstrate the lifestyle of the patient and can perfectly reflect years of trauma from faulty tooth brushing, use of acidic and chemical agents or even eating habits. The appearance and structure of the teeth tends to change with time, and recognizing these patterns is the first step in the oral assessment of the elderly patient. Often, there are some obvious changes in the thickness of the enamel and dentin, the presence of gingival recession leading to a higher incidence of root caries especially in teeth with crowns or bridges, and even reduced sensitivity to cold or hot.

Changes of tooth Structure

Enamel: increase the fluoride content in the superficial enamel. The thickness of the enamel decrease over time, due to the many chewing cycles and cleaning with abrasive dentifrices.

Dentin: The volume of dentin increases due to the apposition of secondary dentin on the walls of the pulpal chamber and because of caries or dental excavation. Aged dentin is more brittle, less soluble, less permeable, and darker than it was earlier in life.

Pulp: The size of the pulp chamber and volume of the pulpal tissue decreases with

reparative and secondary dentin.

Cementum: Calcification of the nerve canals increases with age, the cementum volume within the alveolus increases gradually over time, notably in the apical and periapical areas.

Oral Soft tissues: Mucus membrane generally atrophies with age, the rate of atrophy depends on diet, habits, dentures wear and oral hygiene.

- Increase keratinization of cheek and lips.
- Decrease keratinization of palate.
- Thinning in oral mucosa make it more easily damages and penetrated by some substances in food, which may give rise to etching or burning.

Root Caries

- Root caries differs from coronal caries (enamel and dentin) in several aspects (mineralization and bacterial invasion).
- It appears to be more severe in males than females.
- Most likely to affect the molar regions.

Risk factors:

1. Gingival recession.
2. Physical disabilities.
3. Existing restorations or appliances.
4. Decreased salivary flow.

6 Medication.

7 . Cancer therapy.

8 . Low socioeconomic status.

9 . Abrasion at the cementoenamel junction.

10 .Soft diets consisting of refined sugars and sticky, fermentable carbohydrates.

Root caries prevention and therapy include:

1. Application of topical fluoride.
2. Dietary counseling,
3. Plaque control and prevention of gingival recession.

Restorative dental treatment:

Shallow root caries

1. Smoothing the compromised root surface.
2. Improving access to oral hygiene.
3. Applying a topical fluoride.

Deeper compromised root caries:

Need to be cleaned out and restored with a restorable dental material. There are four types of materials currently used to restore carious lesions on the root surfaces:

1. Amalgam.
2. Composite resins.
3. Auto-cured and dual-cured glass ionomer cements.

Periodontal disease: The rate of periodontal disease progression partly related to the mass and composition of the oral microbiota and the host's ability to respond to this

microbial population. Earlier identification of periodontal disease and risk factors will be possible, as well as early treatment to help reduce disease progression and its subsequent loss of teeth.

Local Anesthesia: Most restorative procedures can be done with no discomfort in the absence of local anesthetic or with minimal infiltration of anesthetic, with the patient's consent.

Fluoride treatment: 0.02% sodium fluoride daily mouth rinse. 0.4% stannous fluoride gel

Oral Cancer: person 65yrs of age and older are 7 times more likely to be diagnosed with oral cancer than those less than 65years of age. Follow up every six months to:

1- Intra and extra oral examination.

2- Receive a thorough questioning regarding changes in oral conditions and habits.

3- X- Rays should be taken periodically.

4- When redness, irritation, bleeding, soreness, sensitivity to temperature changes and/or chewing is present to such a degree that it interferes with daily routine or persists for more than 2 weeks, the problem should be investigated. With early diagnosis, the prognosis is much improved.

Systemic conditions and oral health

Nutritional Status: affect the periodontal condition

Immunosuppression: higher risk for fungal infections, viral infections, oral ulcerations.

Diabetes: periodontal disease impacts glycemic control.

Dementia: oral hygiene often neglected.

Arthritis: impaired manual dexterity leads to poor oral hygiene.

Osteoporosis: accelerates tooth loss, increases frequency of denture.

Functional Status: functional assessment evaluates one's ability and limitations to complete basic tasks of daily life.

Functional status is defined in terms of Activities of Daily Living (ADLs) are those abilities that are fundamental to independent living, such as bathing, dressing, toileting, transferring from bed or chair, feeding and continence.

Instrumental Activities of Daily Living (IADLs) are more complex daily activities such as using the telephone, preparing meals and managing money.

The individual's ability to complete ADLs and IADLs will affect the person's ability to access and maintain their oral health care regimen.