AGING & PERIODONTIUM

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INTRODUCTION

- Increased life expectancy
- Increased health awareness and advances in preventive dentistry have led to **decreasing tooth loss** for all age groups
EFFECTS OF AGING ON THE PERIODONTIUM
GINGIVAL EPITHELIUM

- Thinning and decreased keratinization
- Increase in epithelial permeability to bacterial agents
- Decreased resistance to functional trauma
- Flattening of rete pegs and altered cell density

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GINGIVAL EPITHELIUM

- Effect on the location of the junctional epithelium
  - No effect
  - Gingival recession

- Increase in the width of attached gingiva
CHANGES IN ATTACHED GINGIVA WITH AGE

Continued eruption due to attrition and tooth surface loss

Gingival margin

Occlusal plane

Original gingival margin location

Original cementoenamel junction

Mucogingival junction

The distance from the mucogingival junction to the gingival margin approximates to the width of

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Coarser and more dense gingival connective tissue

Qualitative and quantitative changes in collagen
- Increased insoluble collagen and increased mechanical strength
- A greater collagen content
PERIODONTAL LIGAMENT

- Decreased no. of fibroblasts
- Irregular structure
- Decreased organic matrix production and epithelial cell rests
- Increased amount of elastic fibers
- Conflicting reports regarding changes in the width
  - May be more dependent on the function

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CEMENTUM

✓ Increase in cemental width
✓ 5 to 10 times
✓ Greater apically and lingually
✓ Increased surface irregularity
More irregular periodontal surface of bone and less regular insertion of periodontal fibers

Age is a risk factor for alveolar mass reduction in osteoporosis

Socket healing independent of age

Implant union also age independent

However bone graft from donors more than 50 years of age have less osteogenic potential
BACTERIAL PLAQUE

- Plaque accumulation increases with age
  - Gingival recession
  - Surface irregularities

- Increased P. gingivalis and decreased A. actinomycetemcomitans

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IMMUNE RESPONSES

- Age related changes in the inflammatory response in gingivitis have been demonstrated
- No evidence of age related changes in host defenses correlating with periodontitis
EFFECT ON PROGRESSION OF PERIODONTAL DISEASES

✓ A greater inflammatory response in older subjects shown in the classical gingivitis studies

✓ Recession may be a cumulative phenomenon

✓ The effect of age is either non-existent or provides a small or clinically insignificant increased risk of loss of periodontal support

✓ Age is thus not a true risk factor but a background or an associated factor for periodontitis
EFFECT ON RESPONSE TO TREATMENT

✓ No differences in response to non-surgical or surgical treatment have been shown for different age groups with regard to periodontitis.
CONCLUSION

✔ The effects on aging on the structure of the periodontium, function of the immune response, and the nature of either supra-gingival or sub-gingival plaque have a negligible effect.

✔ Aging might affect other aspects of managing the periodontal diseases

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