Women’s Health &
The Oral Systemic Link

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What We Know About Women’s Oral/Systemic Health Link:

- Women’s ageing and life’s natural progression
- Hormonal and systemic changes
- Mouth is connected to body
- How systemic changes affect the mouth
- Oral health impact on whole body health.

Learning Objectives

- An overview of some of oral / physiological changes in women from young womanhood through senior years.
- The role of inflammation in the mouth and its potential link to systemic disease.
- Major illnesses in women; oral manifestations of disease & disease treatment.
- Addressing the oral issues: treatment of such

Summary Statement: Women Through The Ages

- Caries and periodontal disease are infections w/ bacteria often the primary etiology.
- Host receptivity is a necessary to “receive” infection.
- Hormones modify our host response as we age.
- Hormonal changes are a risk factor that we can help our female patients compensate for. Taking a thorough medical history is critical regardless of age.
The Challenge

• Inflammatory periodontal diseases exhibit an association with multiple systemic conditions.
• Current lack of consensus among experts on associations.
• Confusion among health care providers and public on how to interpret research.

What Research Tells Us…

• Markers for chronic periodontitis, i.e. tooth loss, show relatively consistent but weak associations with various systemic conditions.
• Shorter-term interventional trials do not support direct cause-and-effect relationships.
• Treatment of periodontal infections important to achieve oral health & reduce systemic risks of chronic inflammation & bacteremias.

Puberty/Menses

A time of change…!
• Physical
• Emotional
• Oral manifestations
• Unique challenges
Pubertal Gingivitis

• Signs of inflammation exaggerated in relation to the amount of biofilm present in this 12-year-old female patient.

Puberty/Menstruation

AAP Summary Statement:
“Normal and abnormal changes in hormone levels can modify the gingival inflammatory response to plaque biofilm…”

Further, if pre-existing gingivitis, females who are menstruating have increased inflammation and crevicular fluid exudate.

Additionally…

• As permanent teeth erupt, anatomy of gingiva changes. JE is thinner than that of primary tooth.
• Increased permeability of epithelium to bacterial toxins.
• Evidence indicates biofilm composition changes to an increase in gram negative bacteria.
Additional Local Risk Factors

- Supra and sub gingival plaque/calculus
- Malocclusion
- Orthodontic appliances (including fixed & removable retainers, full orthodontic banding etc.)
- Mouth breathing

Periodontitis In Female Adolescence/Teenagers

- Chronic gingivitis, local & generalized aggressive periodontitis must be diagnosed early; monitored carefully. May or may not be indicative of systemic diseases.

AWARENESS!

Aggressive Periodontitis In A Female At Puberty

Vertical loss of alveolar bone around the first molars and incisors, beginning around puberty in healthy teenagers, is a classic diagnostic sign of LAP.

Radiographic findings may include an “arc-shaped loss of alveolar bone extending from distal surface of second premolar to mesial surface of second molar.”
Diabetes In Teens – Consider This:

• Historically most cases of diabetes in children aged 12-19 were Type I.
• As of 2012, marked increase in Type 2 diabetes in this aged group.
• AND…Inflammation potentially impacts blood sugar control!

Systemic & Genetic Disorders Associated w/ Periodontal Diseases In Children & Adolescents.

• Insulin dependent diabetes
• Leukemias
• Neutropenias
• HIV/AIDS
• Chediak-Higashi Syndrome
• Down Syndrome
…And others…

Necrotizing Ulcerative Periodontal Diseases
HPV-Related Oropharyngeal Cancer

- Most oral cancers asymptomatic/undiagnosed until later stages.
- Early stage = 80-90% cure rate.
- Late stage = 45% five years post diagnosis.
- 560,000 cases and 300,000 deaths annually worldwide.
- Reference:

HPV-Related Oropharyngeal Cancer

- Greatest risk factor for oral HPV infection is oral sex. Very popular. Why?
- Other risk factors: young age at first intercourse, previous sexual transmitted infection, engagement in casual sex, infrequent use of condoms and high number of sexual partners, especially oral sexual partners.

HPV-Related Oropharyngeal Cancer

- In the following audiotape, a RDH educates a 19 year old college student at a dental visit, based on high oral cancer risk findings. (She had completed a risk assessment survey.)
RDH at Chairside

- Listen and see how using the risk survey enables a comfortable, educational discussion to take place.

Oral Contraceptive-Associated Gingivitis

- Exaggerated inflammatory response with high dose oral contraceptives.
- Long term use may affect attachment levels.
- If high dose discontinued, risk reverses
Oral / Systemic: Pregnancy

Pregnancy Gingivitis

- Exaggerated inflammatory response of the gingiva to dental plaque biofilm & hormonal changes usually occurring during the 2nd and 3rd trimesters of pregnancy.

Oral / Systemic: Pregnancy

- More than half of women do not visit a dentist during pregnancy!
- Safety during 1st trimester is a fear.
- A 2012 systematic review of randomized controlled trials found that scaling & root planing has a statistically significant effect in reducing the risk of preterm birth in groups which are already at high risk of preterm birth.*
Oral / Systemic: Pregnancy

- AAP: “Modest association between maternal periodontitis and adverse pregnancy outcomes.”
- Currently no formal recommendation for periodontal therapy to reduce adverse pregnancy events.
- Perio treatment during pregnancy is "considered safe".

Peri & Post Menopause: Defined

- True menopause is ONE DAY! It is the day you haven’t had a period for 12 consecutive months.
- So….you are not "going through menopause"
- You are either "perimenopausal" or "postmenopausal".

Peri-Menopausal Physiological Changes

Shorter, longer, heavier, lighter periods/intervals.
Hot flashes, extreme sweating day/night
- Sleep problems.
- Mood changes.
- Changes in sexual function-thinning of vaginal walls & dryness
More Peri-Menopausal Stress

• Changes in sexual desire.
• Loss of bone.
• Change in cholesterol.
• Trouble focusing, feeling mixed up or confused.
• Headaches.
• Hair loss on head
• Hair growth on face.
• Joint and muscle aches.

Encourage MD Consult

• Salivary & blood tests can reveal hormone levels for reproductive, thyroid & adrenal systems.
• Consider supplements, i.e. Progesterone Cream, Vitamin B Complex, Zinc, Selenium and more.

Relief for Peri-Menopausal Symptoms:

• Eat organic, fresh, healthy
• Aerobic & weight bearing exercise
• Sleep 7-8 hours or +
• Use alcohol moderately.
• Stop smoking.
• Maintain healthy BMI.
• Regular, satisfying sex
Self-Help for Peri/Post Menopausal Symptoms

- Yoga
- Stress management
- Exercise
- Supplemental vitamins!
- Self-Relax
- Meditation
- Prayer
- Breathing/Relaxation
- Journal/ Quiet time/ ME time

Stress: Oral/Systemic

- Remember: Primary etiology of periodontal diseases is bacteria. However, vulnerable host is necessary-
- STRESS is a true risk factor

Stress: Oral/Systemic

- It can only be positive to talk to patients about such strategies to address STRESS in peri/post menopause...!
Statistics Post Menopausal Women

36 million women are in the post-menopausal phase of life!

Post Menopausal Physiologic Changes

• Feeling the heat day and night

Hygiene Care Visit: Postmenopause

• In the following videotape, a postmenopausal hygienist is treating a postmenopausal patient at a continuing care appointment.
• See if this is a real world scenario in your practice! 😊}))
Post Menopausal Reality

- With the cessation of estrogen production comes a potential increase in a number of systemic illnesses and conditions.

Xerostomia
Strategies for Xerostomia

• Xylitol candies/lozenges. SALESE. Biotene.
• Drink more water; Rinse mouth often with water. Nutritional counsel!
• Artificial saliva
• Automatic toothbrushes
• Water piks/flossers
• Dry mouth gels/rinses. ***ACT for dry mouth!
• Avoid salt

Halitosis

Possible Sources of Halitosis

• Poor Oral Hygiene
• Periodontal disease
• Xerostomia
• Uncontrolled Diabetes
• Chemotherapy
• Large tonsils/tonsilloliths
• Acid Stomach/Imbalance of gastric flora
• Frequent vomiting for variety of conditions
• Unknown systemic issues?
Helpful/Solutions/Links for Halitosis

- Treat periodontal disease/caries.
- Educate and practice good oral hygiene including interproximal care, tongue scraping, antimicrobial mouth rinses (cloys.com)= my personal favorite!
- Utilize any needed strategies to address dry mouth.
- Maintain professional hygiene recare visits.
- Address large tonsils, tonsilloliths, acid stomach issues, narrowing of esophagus, and all other possible systemic issues.

Peri/Postmenopausal: Oral Systemic Link

- The oral – systemic link is a true educational motivator for our patients in this group.
- Encourage women to do all possible to minimize inflammation in the mouth and periodontium as a part of total health and well being!

Chronic Inflammation “May” Disseminate Microbes/Byproducts Through the System

- Predominantly gram-negative microbial infection within sub-gingival dental plaque biofilm.
- Total surface area size = palm of hand.
- Skin lesion this size would prompt immediate medical intervention.
- Intra-oral (similar-sized) infection is frequently ignored despite the possible link.
The “How” Is Not Clear…

Various hypotheses postulated:
• Common susceptibility
• Systemic inflammation with increased circulating cytokines and mediators
• Direct infection and cross-reactivity
• Molecular mimicry between bacterial antigens and self-antigens.

Oral Inflammation May Contribute to System Inflammatory Response

AND…
• Some researches indicates intensive periodontal therapy showed a significant reduction of lymphocyte formula, of CRP levels, of interleukin-6 (IL-6) and of LDL cholesterol after two months.

Makes Sense, Right…?

• Effective treatment of periodontitis important in reducing systemic inflammatory loading from chronic local inflammation and in achieving systemic health.
Oral/Systemic: Tobacco & Alcohol Use

• Oral/Systemic: Tobacco & Alcohol Use

Uncontrolled diabetes is a risk factor for periodontal disease.

Well-controlled diabetics are not at increased risk for periodontal disease.

However, inflammation in the mouth may exacerbate blood sugar control.

Oral/Systemic: Diabetes

Periodontitis In An Uncontrolled Diabetic Female
Oral/Systemic: Heart Disease

• Inflammation in the mouth has been linked to increased cardiovascular disease risk.
• All the more important to counsel our patients as to the importance of minimizing inflammation!

Oral/Systemic: Heart Disease

• EBR: association w/ periodontal infections, atherosclerosis and vascular disease.
• Periodontal tx as a recommendation should be based on achieving good oral health.
• Awareness of periodontal infections as a potential risk factor for CVD important.

Oral/Systemic: Hypertension

• Know value of providing blood pressure screening at chair side during recare visit.
• Sphygmomanometer (wrist) will record pulse and BP in 30 seconds with relative accuracy.
• Why important?
Oral/Systemic: Cancer

- Patients diagnosed with head & neck cancer will likely have chemo or radiation therapy.
- Oral Mucositis: Painful condition characterized by red, shiny, swollen tissues. Tongue and gingival ulcerations. Difficult to swallow/talk; dry, burning. Begins within 5 days. Lasts 1-6 weeks+.
- Severe complication is Confluent Mucositis where mucus membrane of entire mouth and tongue has 1mm thick white mucus.

Oral/Systemic: Cancer Treatment

- Oral ulcers
- Burning tongue/tissues
- Altered taste

All of these may happen as a consequence of chemotherapy.

Oral/Systemic: Cancer

- Treatment Suggestion: NeutraSal by Invado Pharmaceuticals designed to maintain and heal oral mucosa. (By Rx only)
Oral/Systemic: Cancer

- Reminder to all RDHs to include external head/neck exam in screening as cancers such as thyroid can be detected!

Oral/Systemic: Respiratory Disease

Do periodontal diseases or other indicators of poor oral health influence the initiation/progression of pneumonia or other lung diseases?

Oral Health/Pneumonia

- Community acquired pneumonia (contracted outside a hospital setting) NO LINK!
- Evidence: periodontitis / poor OH may be associated w/ hospital acquired pneumonia.
- Periodontal intervention may be beneficial in reducing the incidence of hospital acquired pneumonia
Oral Health/COPD

- COPD Risk: (i.e. emphysema and chronic bronchitis)
- Hypothesized by some that periodontal infection may increase risk?
- Insufficient evidence at present

Oral/Systemic: Osteoporosis

- Osteoporosis does not initiate periodontitis, because periodontitis is a bacterial infection.
- However it can exacerbate pre-existing periodontitis.
Oral/Systemic: Kidney Disease

Consistent evidence supports link between periodontitis and CKD; & positive effect of PT on eGFR.

However:
Periodontitis may be associated with chronic kidney disease. Current evidence not sufficient. More study needed!

Oral/Systemic: Rheumatoid Arthritis

• Periodontitis may be more prevalent in patients with RA.
• EBR suggests that periodontitis could be a causal factor

Oral/Systemic: Alzheimers

• Several types of spirochetes, including periodontal pathogen spirochetes, may be involved in the pathogenesis of Alzheimer's disease according to Judith Miklossy, MD.*
• Strength of association between spirochetes & alzheimer's disease is stronger than periodontal disease/cardiovascular link!
• Appears to be causal and infection happens long before any signs of dementia are diagnosed.
Oral/Systemic: Alzheimers

- Patients with periodontal diseases may be at greater risk of Alzheimer's disease, and periodontal treatment may reduce this risk.
- More research is needed, however.

Summary Oral/Systemic

More research needed to confirm...

Thank You!

Questions, comments or inquiries, including reference requests:
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