Periodontal Disease and Systemic Health in Women

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Bullemia

- Patients fear being overweight
- Lost control over eating
- Eat and purge
- Tend to be normal weight
- May have electrolyte imbalances leading to arrythmias etc.
Bullemia – Dental Findings

- Enamel erosion
- Tooth sensitivity
- Small, purplish-red lesions on the palate due to contact with objects used to induce vomiting
- Teeth may be discolored or look dull from the acid
- Xerostomia, dry lips and skin around the mouth
- Swollen lymph nodes and salivary glands in severe cases
- Patients often deny the disease
- Dental finding may aid in ascertainment of cases
Pregnancy
Pregnancy gingivitis

- Hormones plus plaque bacteria increase the gingival inflammation

Prevention
- Home care and scaling and root planning

Treatment Scaling and root planing
- Antimicrobial rinses where indicated
- Tetracyclines are not indicated in pregnant patients
Osteoporosis

- Loss of bone density
- Propensity to fracture
  - Especially, Hips, Wrist, Spine
- May result in widows hump
Risk factors for Osteoporosis

- Low peak bone mineral density
- Low body mass index
- Diet: insufficient calcium 1000-1500mg/day
- Women
- Postmenopausal
- Lack of Estrogen
- Smoking
Risk factors for Osteoporosis

- Drugs
  - Corticosteroids
    - Possible to lose 10% of bone mineral in one year
  - Cytotoxic Drugs
  - Estrogen antagonists
- Lack of exercise
- Propensity to fall
Progression of alveolar bone loss and osteoporosis

- Sites with osteoporosis and periodontitis have the highest rate of bone loss
3-year Alveolar Bone Loss (mm)

- Osteoporosis
- No osteoporosis

Periodontally healthy
Periodontal disease

mm bone loss/yr
What to do?

- Prevention, prevention, prevention
  - Include questions on osteoporosis in the medical history
  - Educate about diet, exercise, etc.
  - Refer for treatment
- Prevent and treat periodontal disease
Prevention of osteoporosis

- Education
- Attain sufficient peak bone mass
  - Calcium and milk
  - Avoid soda
  - Avoid smoking
- Attain sufficient bone mass
- Exercise
- Appropriate drug treatment
Pharmacologic approaches

- Estrogens
- Nasal calcitonin
- Bisphosphonates
  - E.g. alendronate, risendronate
- Designer estrogens
- PTH (daily injections)
Bisphosphonates - Risks

- Patients must drink a full glass of water
- Risk of esophageal irritation
Intravenous Bisphosphonates-Risks in patients with bone cancer

- Patients usually are also taking cytotoxic drugs to treat the bone cancer
- Cases of osteonecrosis of the jaw have been reported
Effect of bisphosphonates on alveolar bone

- Jeffcoat et al 2006
- Double blind randomized controlled clinical trials
- 70 mg alendronate weekly
- 320 Subjects
- Assess safety and efficacy
Effect of alendronate on alveolar bone

![Graph showing the effect of alendronate on alveolar bone with comparison to placebo.](image)
Dental Implants

- Endosseous
- Osseointegrated
- Usually titanium, titanium alloy, with or without a bioactive coating
Risk factors for dental implants

- Smoking.
- Factors that effect healing of bone (e.g. steroids, diabetes etc.)
- Untreated periodontal disease
- Anatomy (inadequate bone to place implants (grafting may be needed).
- Poor bone quality
- Inadequate practitioner training and/or experience
- Patient compliance
Risk Factors For ONJ and Failure

- Smoking
- Diabetes
- Pre-existing infection
- Cortico-steroids
- Drugs that inhibit the immune response
- Untreated periodontal disease
- Allergy
ONJ due to metal allergy
Failing Implant - Infection
Bone graft + membrane

Pretreatment  one month  five years
ONJ - Radiographic
ONJ - Clinical
Do oral bisphosphonates cause implant failure – after 8 years

- 32 consecutive patients taking bisphosphonates for osteoporosis, and 32 controls
- Tracked for at least 5 years after implants placed, received bisphosphonates for 3 yrs before placement
- Looked for evidence of
  - implant loss
  - loss of >2mm bone
  - mobility
  - ONJ
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Oral bisphosphonates

- Low dose
- All bisphosphonates are not alike
- Controlled studies involve tens of thousands of subjects
- Post market studies involve millions
- Cannot calculate a risk of ONJ – it is very small or non existent
Intravenous bisphosphonates

- High dose
- All bisphosphonates are not alike
- Standard of care along with high doses of steroids and cytotoxic drugs (both cause bone problems) to treat cancers such as multiple myeloma
- Difficult to calculate risk of ONJ
- In Penns experience it is 1-3% but it is unknown if the cancer, the cytotoxic drugs, steroids, or high dose bisphosphonates caused the problem
Stay tuned

- More studies are on the way!