DISCLOSURE

I do not have any relevant financial/non-financial relationships with any proprietary interests

Reference

Reference Manual: AAPD
Pediatr Dent 2013-2014
Purpose

- Pediatricians play a vital role in the diagnosis and treatment of oral conditions
- Communication between pediatricians and pediatric dentists is paramount to optimum patient care

Overview

Part I
- Newborn Anomalies
- Eruption Problems
- Orthodontic Concerns
- Soft Tissue Lesions
- Dental Infections

Part II
- Lymphadenopathies
- Discolored Teeth
- Trauma
- Prevention
- What’s New!

VI. Lymphadenopathies

- Dental infections
- Cat Scratch Fever
- Actinomycosis
- Tuberculosis
- Hodgkin’s Disease
- Leukemia
Needle Aspiration Biopsy

Cat Scratch Fever
- Fall / winter; most patients under 20 (80%)
- Pustule or ulcer at scratch site; symptoms 1-3 weeks later
- Fever, malaise, headache, chills, lymphadenopathy; may fistulate (without scarring)
- Viral vs. Bacterial? Not conclusively established
- Doesn’t respond well to antibiotics
- Self-limiting; resolves in 1-2 months

Actinomycosis
- “Lumpy jaw”
- Typical “barnyard scratch”
- Not a true fungal infection; resembles both bacteria and fungi
- Filamentous bacteria; non-acid fast; anaerobic; gram +; “sulfur granules”
- TX: Long-term antibiotics; surgical drainage; excision of infected tissue
Tuberculosis

- Infectious, granulomatous disease
- "Mycobacterium tuberculosis"
- 1.5 / 100,00 children; on the rise; American Indian reservations
- Symptoms: lassitude, malaise, anorexia, night sweats, fever, cough
- May fistulate; submaxillary or cervical nodes; "scrofula"

Hodgkin’s Lymphoma

- Type I; unilateral lymphatics
- Common cancer in children:
  - Lymphomas are 10% of all pediatric cancers
- Peak incidence between 15-19 years
- Enlarged lymph node in neck
- If not resolved in 2-4 weeks…no underlying inflammatory process…consider biopsy!
- Unilateral has a 90% cure rate

Leukemia

- Most common form of childhood cancer
- Peak incidence 4 years
- Children usually get the acute form:
  - ALL (76%)
  - ANLL (20%)
- Gingivitis, due to neutropenia, is rare in children
- Most commonly reported, dentally-related finding (RED FLAG):
  - Lymphadenopathy of cervical, submandibular, and submental nodes
  - With petechiae
VII. Discolored Teeth

CASE #8

- Two year old male:
  - Generalized grey stain
  - PMHx: Anemia
  - Asymptomatic

  What is your diagnosis?
  What is your treatment?
  What do you tell the parents?

Discolored Teeth

- Extrinsic stain
  - Surface of tooth
- Intrinsic stain
  - Inside the tooth
Extrinsic Stain

- Foods:
  - Tea, coffee
- Tobacco
- Medicaments:
  - Iron sulfide (anemic patients)
  - Stannous fluoride (Gel Kari; Dentin Block)
  - Chlorhexidine (Peridex)
  - Silver nitrate (cauterizing agent)
  - Plaque disclosing agents (red, vegetable dyes)

Intrinsic Stain

- Drug Administration
  - Tetracycline (Cystic Fibrosis)
  - Systemic Fluoride
- Trauma
  - Internal Hemorrhage (Blue-gray)
  - Calcific Metamorphosis (Yellow)

Drug Administration

- Tetracyclines
  - Cystic Fibrosis Patients
- Sulfa Drugs
- Fluorides
Trauma

Internal Hemorrhage (Blue-gray)
- Traumatized capillaries may rupture and bleed into dentin

Calcific Metamorphosis (Yellow)
- Tooth does “root canal” on itself

VIII. Trauma

- Soft Tissue
- Primary Teeth

Soft Tissue Management

- Four major steps
  - Cleansing
  - Debridement
  - Hemostasis
  - Closure
CASE #9

- Two year old male:
  - Playground fall 2 hours ago
  - Tongue is sore; bled for 10 minutes
  - No hemorrhage now
  - Playing calmly in E.R. waiting room

What is your diagnosis?
What is your treatment?
What do you tell the parents?

Soft Tissue Management

- Tongue lacerations
  - Suture to control bleeding
  - Suture lacerations on the lateral border
  - Suture deep v-shaped lesions
Trauma to the Supporting Structures and the Teeth

- Concussion: no movement
- Subluxation: loose, but not displaced
- Extrusion: coronal displacement
- Lateral luxation: lateral displacement
- Infusion: apical displacement
- Avulsion: complete displacement

Trauma to teeth:
  - Root Fracture
  - Crown Fracture

62% of injuries to the primary dentition will be displacement injuries

Concussion

- TX: radiographs, observe, follow-up

*Photo courtesy Dr. Charles Stuart, Capt
“Three Month Rule”

- If something unfavorable is going to happen to a primary tooth following trauma, it will usually happen within three months.

Subluxation

- TX: radiographs, observe, follow-up

Lateral Luxation

- TX: radiographs, reposition if less than 2-3 hours, observe, follow-up
Extrusion

- TX: radiographs, reposition/extract, observe, follow-up

CASE #10

- 18 month old male:
  - Fell while running with “Tippy Cup” 2 hours ago
  - Front, top teeth now shorter than before

  - What is your diagnosis?
  - What is your treatment?
  - What do you tell the parents?

Intrusion

- TX: radiographs, allow to re-erupt, observe, follow-up
Re-eruption of a Primary Incisor

Initial evaluation

3 months

15 Months

“Rule of Threes”

- Crown formation complete three years before eruption
- Root formation complete three years after eruption

CASE #11

- Two year old female:
  - Daycare fall 30 minutes ago
  - Intact tooth is in cup of cold milk

- What is your diagnosis?
- What is your treatment?
- What do you tell the parents?
Avulsion
- TX: radiographs, rule out intrusion, do not re-implant

Avulsion
- Parents: “When will permanent tooth erupt?”
  - Accelerated eruption
    - Tooth loss occurs after 2/3 Perm root formation
    - Tooth loss occurs within one year of eruption
  - Delayed eruption
    - Tooth loss prior to 2/3 Perm root formation
    - Tooth loss outside of one year of eruption

Root Fracture
- TX: radiographs, observe, follow-up
Fractures of Primary Teeth

- Crown Fractures: Ellis Classification
  - Class I: enamel only
  - Class II: enamel/dentin

Fractures of Primary Teeth

- Crown Fractures: Ellis Classification
  - Class III: enamel/dentin/pulp
  - Class IV: entire crown

Alveolar Fractures

- Loss of arch continuity
- Occlusal disharmony
- "Step" defects
- Vertical gingival tears
- Sublingual hematoma

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IX. Prevention

Initial Dental Visit
- The American Academy of Pediatric Dentistry recommends “a dental consultation shortly after the eruption of the first primary tooth”.
- Within 6 months of the first primary tooth
- No later than 12 months of age

Well Baby Dental Visit
- History
- Oral examination
- Counseling on systemic / topical fluoride
- Diet counseling
- Oral hygiene instructions / demonstration
- Non-nutritive sucking habits
CASE #12

Two year old male:
– Still on night-time nursing bottle
– Pain x 2 weeks; difficulty eating

What is your diagnosis?
What is your treatment?
What do you tell the parents?

Early Childhood Caries (ECC)

Outdated terminology:
– "Baby Bottle Tooth Decay" or "Bottle Mouth"
– "Nursing Decay" or "At-will Breast Feeding"
– "Sippy-cup Decay"
X. What's New!

- At-will breast feeding controversy
- Fluoride supplements
- Preventing infective endocarditis

At-will Breastfeeding Controversy!

- Case reports have long suggested that prolonged, ad lib breastfeeding is associated with ECC
Controversy!

Erickson et al:
- Human breast milk:
  - *DOES NOT* cause plaque pH drop
  - Supports only moderate bacterial growth
  - Deposits Ca and P on tooth surfaces
  - IS a poor buffer
  - *DOES NOT* cause demineralization… *BY ITSELF*
- Human breast milk, with just 10% sucrose
  - *DOES* cause dental caries

Controversy!

Weerheim et al:
- Prolonged breast feeding *WAS NOT* associated with high caries prevalence
- Frequent breast feeding + low fluoride exposure *MAY BE* contributing factors for nursing caries
- Prolonged, frequent breast feeding *MAY BE* associated with other factors that influence caries development

Feeding Habits and Dental Caries

- Frequent bottle feeding at night, breast feeding on demand, and extended and repetitive use of a no-spill training cup are all associated with, *but not consistently implicated in*, ECC.
Feeding Habits and Dental Caries

- Poor feeding practices ALONE will not cause caries
- Thus, terms like “baby bottle tooth decay”, “bottle mouth”, and “nursing decay” are misleading
- ECC is a term that better reflects the multifactorial etiologic process

Severity of ECC is associated with poor feeding habits!

Mild ECC

Severe ECC

Fluoride Supplements: A Systemic Review

- Examined evidence regarding the effectiveness of F1- supplements in preventing caries and their association with dental fluorosis
- Search filters: Medline, Cochrane Central Register, OVID, EMBASE

Conclusions

- **Weak and inconsistent evidence** that F- supplements prevent dental caries in primary teeth
- Some evidence that F- supplements prevent caries in permanent teeth
- Mild-to-moderate dental fluorosis is a significant side effect

Recommendations

- The use of F- supplements during the first six years of life **should be re-examined!**

Preventing Infective Endocarditis

- Revised guidelines for antibiotic prophylaxis from the American Heart Association (**April 19, 2007**)
- Nine modifications of the AHA recommended antibiotic regimens from 1955- to 1997
Conclusions

- The ability of antibiotic therapy to prevent or reduce the frequency, magnitude or duration of bacteremia associated with a dental procedure is controversial!
- Only an extremely small number of cases of infective endocarditis might be prevented by antibiotic prophylaxis, even if it were 100% effective.

Conclusions

- Available evidence supports an emphasis on maintaining good oral hygiene and eradicating dental disease to decrease the frequency of bacteremia from routine daily activities
- Recommend greater emphasis on improved access to care and improved oral health in patients with underlying cardiac conditions with the highest risk of adverse outcome

High Risk Cardiac Conditions

- Previous infective endocarditis
- Cardiac transplant recipients (with cardiac valvulopathy)
- Prosthetic cardiac valves or material (for cardiac valve repair)
High Risk Cardiac Conditions

- Congenital Heart Disease (CHD):
  - Unrepaired, cyanotic CH Defects (including palliative shunts and conduits)
  - Repaired CH Defects with prosthetic material or device (via surgery or cath) for the first 6 months
  - Repaired CH Defects with residual defects at (or adjacent) to the site of the prosthetic patch or device

High Risk Dental Procedures

- Only procedures that involve manipulation of:
  - Gingival tissues
  - Periapical region of teeth
  - Perforation of the oral mucosa

- Dropped:
  - Routine anesthetic injections (non-infected tissues)
  - Most restorative procedures
  - Most removable and some fixed ortho and prosth appliances
  - Shedding of primary teeth
  - Bleeding from trauma to lips and oral mucosa

The End