Chapter 13 Outline

- Oral Conditions and Their Treatment
  - Infectious lesions
  - Immune reactions
  - Miscellaneous oral conditions
  - Inflammation
  - Drug-induced oral side effects
  - Common agents used to treat oral lesions

Chapter 13: Oral Conditions and Their Treatment

- Haveles (p. 165)
  - The dental health care worker is the first professional that patients visit when they notice a lesion in the oral cavity
  - The first step is diagnosis
  - Depending on the diagnosis, the lesion may require only reassurance, palliative treatment, specific treatment, or even surgical intervention

Infectious Lesions

- Haveles (pp. 165-168) (Table 7-1)
  - Acute necrotizing ulcerative gingivitis
    - Has both bacteriologic and environmental factors
      - A spreading ulcer associated with a distinctive odor
    - Good oral hygiene is the cornerstone of treatment, but other modalities have been recommended
      - Mouthwashes assist by their flushing action
    - Aspirin or acetaminophen can be recommended if pain or an elevated temperature accompany the condition
    - Antibiotics should be considered only if the patient is immunosuppressed or if evidence of systemic involvement exists

Herpes Infections

- Haveles (pp. 165-166)
  - Overview
    - Self-limiting without treatment in the patient with normal immunity
Herpes Infections

- Haveles (p. 166)
  - Overview
    - The patient may experience recurrent outbreaks after the primary episode that occur at irregular and variable intervals
    - Effectiveness of antiviral drugs varies, depending on whether the outbreak is a primary episode or recurrence and whether the patient is immunocompromised or nonimmunocompromised

Herpes Infections

- Haveles (pp. 165-166) (Table 13-1)
  - Treatment
    - May include an antiviral agent, depending on the patient and the episode
      - Acyclovir: available as tablets, capsules, oral suspension, ointment, cream, and parenteral forms
      - Approved indications include treatment of primary and recurrent HSV in the immunocompromised patient
      - In the nonimmunocompromised patient, oral acyclovir is indicated for both treatment of the primary outbreak and prophylaxis

Herpes Infections

- Haveles (p. 167)
  - Penciclovir
    - Only available topically
    - Reduces lesion duration and viral shedding by 0.7 days
  - Famciclovir and valacyclovir
    - Prodrugs that are converted to active antiviral agents
    - Indicated in the treatment of acute localized varicella-zoster infections and recurrent genital herpes in immunocompetent adults

Herpes Infections

- Haveles (p. 167)
  - Treatment of symptoms
    - Palliative treatment involves treating the patient’s symptoms
      - In a primary episode, fever may be managed by the administration of acetaminophen or by sponging the affected area with tepid water
      - Discomfort may be relieved by swishing diphenhydramine
      - Sodium carboxymethylcellulose paste may reduce discomfort

Candidiasis

- Haveles (p. 167)
  - Candidiasis, a fungal infection caused by *Candida albicans*, often affects the oral and vaginal mucosa
    - Because *Candida* is part of the normal oral flora, it is always present in small numbers
    - *Candida* can predominate when other flora are suppressed
    - Searching exhaustively for potential predisposing factors is important

Candidiasis

- Although candidiasis can appear in several different forms, the lesions are typical and can usually be diagnosed by clinical appearance
  - They may be confirmed by culture
  - Ketoconazole tablets taken orally once daily can be used with chronic candidiasis
Angular Cheilitis/Cheilosis

- Haveles (p. 167)
- Appears as simple redness, fissures, erosion, ulcers, and crusting located at the angles of the mouth
  - May or may not be painful
- Depending on the presentation of the patient’s lesion, therapy is addressed toward treating the secondary infection
  - If bacterial overgrowth is suspected, the organisms responsible are usually similar to staphylococci and streptococci

Angular Cheilitis/Cheilosis

- Cheilosis can result from deficiency of vitamin B\textsubscript{2} or vitamin B\textsubscript{2} (p. 167)
  - Vitamin B supplements would be useful but only if a vitamin deficiency exists

Alveolar Osteitis

- Haveles (p. 168)
- Alveolar osteitis occurs in 2% to 3% of all tooth extractions, most commonly in the lower molar region
  - Thought to be caused by loss or necrosis of the blood clot that has formed in the extraction site, exposing the underlying bone
  - Predisposing factors include oral contraceptive use and menstrual cycle phase
  - Smoking can increase the likelihood of a dry socket

Alveolar Osteitis

- Treatment consists of rinsing with saline water and debridement, placement of a pack, analgesics, and supportive therapy
  - Most literature does not recommend the use of prophylactic antibiotics
  - Antibiotics are indicated if infection is present

Immune Reactions

- Haveles (p. 168)
- Recurrent aphthous stomatitis
  - Sometimes called a canker sore
  - Seen in about 20% of the population
  - Unknown etiology; an immune system involvement is suspected
  - Presents clinically as a few small to many large ulcers
    - Three distinct types have been clinically identified: minor, major, and herpetiforme

Recurrent Aphthous Stomatitis (RAS)

- Haveles (p. 168)
- Corticosteroids
  - Steroids have been the mainstay of therapy for RAS for many years
  - Topical steroids are used to reduce the inflammation associated with these lesions
Recurrent Aphthous Stomatitis (RAS)

- Haveles (pp. 168-169)
  - Aphthasol
  - A new drug used topically, applied four times daily
  - Diphenhydramine (DPH)
  - DPH alone is now preferred because of its local anesthetic action
  - Immunosuppressives
  - Used as a last resort to treat severe aphthous ulcers

Lichen Planus

- Haveles (p. 169)
  - A skin condition that often involves lesions on the oral mucous membranes
  - Oral lesions are present without skin lesions in 65% of the cases
  - Lichen planus can present in three forms: striated, plaque-like, and erosive
  - The most characteristic type is hypertrophic; this lesion has a white lace-like pattern that intersects to form a reticular pattern

- Symptom vary between no pain and extreme pain, depending on the presence of ulceration
  - Etiology is unknown; current hypotheses include a viral infection, an autoimmune disease, and a hypersensitivity reaction to an unknown agent
  - Treatment depends on symptoms
  - Includes oral and topical steroids, oral retinoids, and immunosuppressants

Miscellaneous Oral Conditions

- Haveles (p. 169)
  - Geographic tongue
    - The tongue may have lesions that typically appear to be a map of the world, with the lesions appearing to be the continents
    - The lesions are usually ringed with erythema, and their centers are white
    - Changes in patterns occur over time, and they may even disappear

- Burning Mouth or Tongue Syndrome
  - Haveles (p. 169)
  - The oral cavity appears normal, but the patient gives a history of experiencing a discomfort described as pain or a burning sensation that increases in severity through the day
    - Glossodynia is a painful tongue and is divided into two types: with and without observable alterations on the tongue
    - It can be caused by many conditions, both local and systemic
Burning Mouth or Tongue Syndrome

- Haveles (p. 169)
  - The nature of the psychologic component of the disease is unclear
  - Research shows that the presence of chronic disease can lead to depression and anxiety
  - The etiology has not been elucidated
    - Numerous hypotheses have been proposed, including xerostomia, candidiasis, acid reflux, nutritional deficiency, immunologic reaction, hormonal changes, allergic reaction, inflammatory process, psychogenic reaction, or an idiopathic reaction

- Treatment depends on the particular etiology in which the practitioner believes
  - Some treat the patient as they would for candidiasis
  - Others test for vitamin deficiencies
  - Palliative therapy involves topical DPH to relieve symptoms
  - Tricyclic antidepressants can be used on a trial basis

Inflammation

- Haveles (p. 169)
  - Pericoronitis
    - Inflammation of the tissue around the crown of the tooth
    - Most commonly applied to partially erupted third molars
    - Refers to an inflammatory response that is produced when food and bacteria become trapped between the operculum and the tooth
    - Debridement with saline irrigation and the use of warm saline rinses will rectify the situation if the condition is observed early in its course

- Repeated episodes may occur with erupting third molars
  - Analgesics can be used for discomfort
  - Infection, usually managed by local treatment, may rapidly spread in debilitated patients and should be aggressively treated with antibiotics

Postirradiation Caries

- Haveles (p. 169)
  - Changes in saliva after irradiation therapy and lack of proper plaque control can rapidly accelerate the rate of dental caries
  - Generalized cervical decay within the first year after radiation therapy can result
  - Meticulous oral hygiene, reinforced by the hygienist, short duration between subsequent recall appointments, artificial saliva, and self-application of sodium fluoride gel four times daily in a bite guard are recommended

- Sensitivity of exposed root surfaces may be precipitated by heat, cold, and sweet or sour foods
  - Occlusal trauma may produce irritation to the exposed dentinal tubules
  - Roots exposed by periodontal surgery, extensive root planing, or accumulation of plaque and its byproducts are more difficult to manage

Root Sensitivity

- Haveles (p. 170)
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Root Sensitivity

- The patient may use home brushing with concentrated sodium chloride and 0.4% stannous fluoride
  - Sodium fluoride gel may be self-applied in a bite guard
  - Desensitizing toothpastes have helped some patients
  - Current research indicates that root sensitivity caused by recession, bleaching, or abrasion may be successfully treated with amorphous calcium phosphate

Actinic Lip Changes

- Haveles (p. 170)
- Long-term exposure of the lip to the sun can cause irreversible tissue changes known as actinic cheilitis
  - These sun-related changes occur near the vermilion border of the lips and can progress to malignancy
  - Sunscreen preparations with higher sun protective factors should be applied before sun exposure
  - If keratotic changes have occurred, treatment is topical 5-fluorouracil (5-FU), an antineoplastic agent that promotes sloughing of the skin

Stomatitis

- Haveles (p. 170)
- An inflammation of the mucus lining the cheeks, gums, tongue, lips, throat, and roof or floor of the mouth
  - Caused by poor oral hygiene, poorly fitting dentures, mouth burns from hot food or drinks, or by conditions that affect the entire body, such as medications, allergic reactions, radiation therapy, or infections
  - Treatment is based on its cause and usually includes good oral hygiene

Drug-Induced Oral Side Effects

- Haveles (pp. 170-172) (Box 13-1) (appendix E)
- Can be produced by a wide variety of drugs
  - Different kinds of lesions can be produced with the same drug
  - The same kind of lesion can be produced by different agents
  - Common oral side effects include xerostomia, drug-induced lichenoid-like reaction, and hypersensitivity reactions

Xerostomia

- Haveles (p. 170)
- Xerostomia may result from a drug, a disease, age, or radiation
  - Radiation therapy to the head and neck affects the salivary glands so that the consistency of saliva is altered and its volume is reduced substantially

Xerostomia

- Haveles (p. 170)
- Treatment
  - Caries prevention
  - Artificial saliva
  - Home care
  - Change in medication or reduction in dose
  - Pilocarpine
  - Cevimeline hydrochloride
Sialorrhea

- Haveles (p. 170)
- Certain drugs may produce an increase in saliva termed sialisis, sialism, or sialorrhea
  - One example is the cholinergic agent pilocarpine

Hypersensitivity-Type Reactions

- Haveles (p. 170)
- May be hyperimmune responses triggered by an antigenic component of the drug or its metabolite
  - Contact stomatitis is more localized when gum and candy are responsible and is more diffuse with toothpaste use
  - The potential for a hypersensitivity reaction is determined by the particular drug, the frequency of administration, the route of administration, and the patient’s immune system

Oral Lesions that Resemble Autoimmune-Type Reactions

- Haveles (pp. 171-172) (Box 13-2)
  - Lichenoid-like eruptions
    - Many drugs are associated with eruptions that resemble lichen planus
    - The most common drug is hydrochlorothiazide (HCTZ)
  - Lupus-like reactions
    - Oral manifestations can occur with lupus
    - These lesions may also be produced by a variety of drugs
  - Erythema multiforme-like lesions
    - Some drugs can produce lesions that resemble erythema multiforme

Stains

- Haveles (p. 172)
- Staining may occur either as the teeth are formed or in a few cases in adult teeth
  - Tetracyclines are incorporated into forming teeth and thereby stain the teeth
  - Minocycline is thought to produce a blue-gray coloration to the bone in adult teeth
  - Chlorhexidine rinse and liquid iron preparations can also cause extrinsic staining

Gingival Enlargement

- Haveles (p. 172)
- Gingival enlargement can occur in relation to several drug groups
  - phenytoin (Dilantin)
  - Cyclosporine
  - Calcium channel blockers
  - Other including anticonvulsants such as carbamazepine (Tegretol) and valproic acid (Depakene)

Common Agents Used to Treat Oral Lesions

- Haveles (pp. 172-173)
- Corticosteroids
  - Used for many oral lesions, especially those with a component of inflammation or immune response
    - Depending on the severity of the lesions, the topical corticosteroids would be selected based on their potency
    - If topical corticosteroid therapy is ineffective, or if the condition is severe, then systemic corticosteroids may be indicated

cont’d…
Common Agents Used to Treat Oral Lesions

- Haveles (p. 173)
- Palliative treatment
  - Treatment designed to make the patient more comfortable
    - Agents that reduce the pain of the oral cavity can be topical and systemic
      - Topical agents are applied by swishing the liquid around in the mouth
      - Systemic analgesics can provide relief from a painful oral lesion
    - Topical and systemic agents may be used together for an additive effect