



Bacterial infections

Bacterial infections....

- ▶ Scarlet fever
- ▶ Impetigo
- ▶ Diphtheria
- ▶ Tetanus
- ▶ Actinomycosis
- ▶ Noma
- ▶ Erysipelas
- ▶ Cat scratch disease
- ▶ Tularemia
- ▶ Syphilis
- ▶ Tuberculosis

Impetigo



- ▶ Highly contagious superficial skin infection
- ▶ Most common dermal infection in children (age group of 2 to 6 years)

Etiology

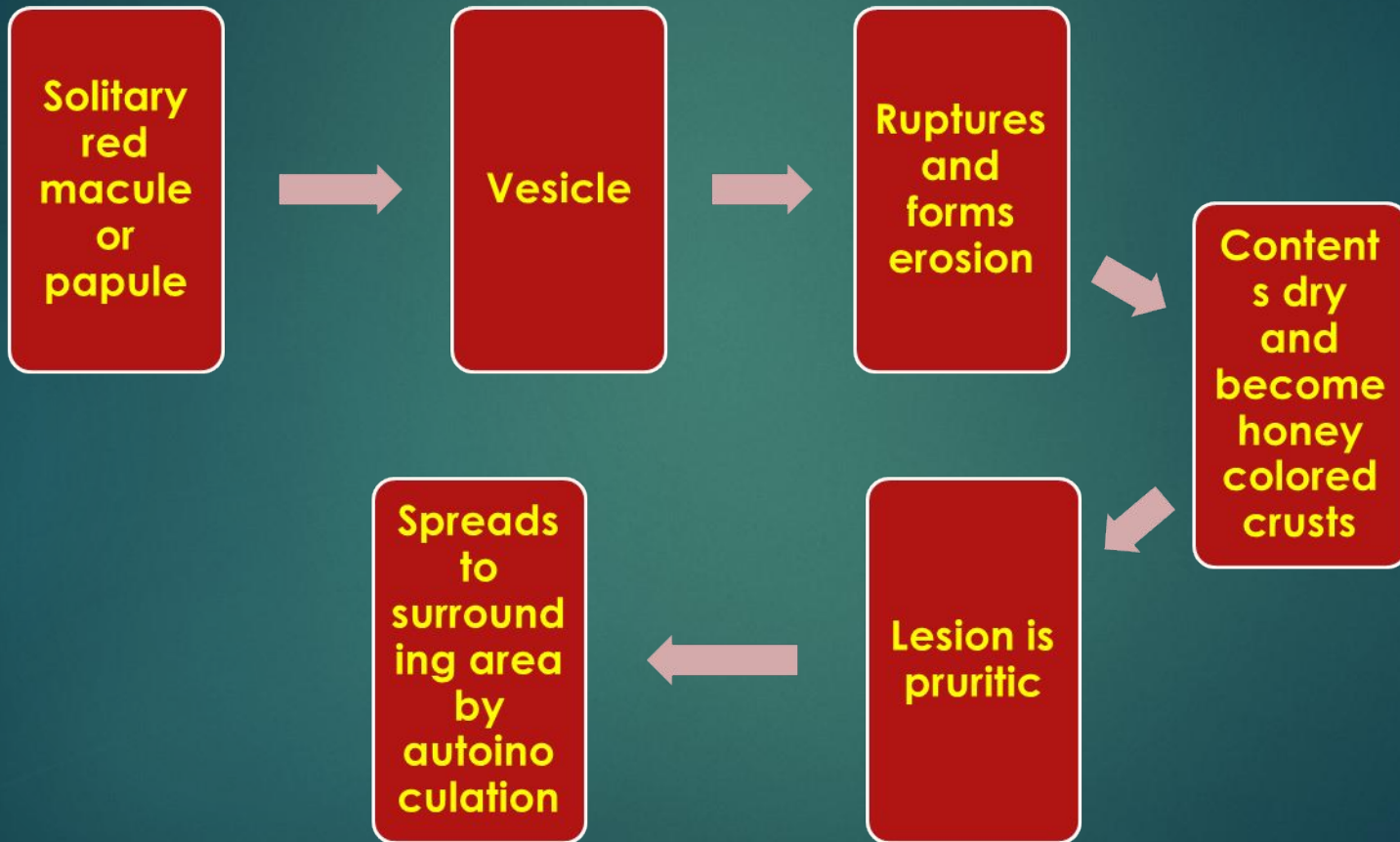


- ▶ Caused by
 - ▶ Beta hemolytic streptococci
 - ▶ Staphalococcus aureus

Clinical features

- ▶ Spreads via direct skin contact
- ▶ Incidents greatest in summer months
- ▶ Most common in areas with poor oral hygiene and crowded living conditions
- ▶ Two types:
 - ▶ Bullous type
 - ▶ Non bullous type

- ▶ Skin of face, hands and leg are affected





Management



- ▶ Topical antibiotic therapy for localised form
- ▶ Systemic cephalexin is treatment of choice for widespread cases

Scarlet fever





- ▶ Also known as
 - ▶ Scarlatina
 - ▶ Scarlatinella
 - ▶ Scarlatiniform rash

- ▶ Subclinical infection is frequently seen in 1 to 10 years of age group.

Etiology



- ▶ Group A beta hemolytic streptococci
- ▶ It produces exotoxin, which is a erythrogenic toxin
- ▶ It acts on blood vessel to produce topical skin rash

Clinical features

- ▶ Incubation period: 1 day to 1 week
- ▶ Mode of entry: upper respiratory tract
- ▶ Fever and skin rashes appear in 2 days of infection and resolve within 7 days.
- ▶ Associated symptoms:
 - ▶ Headache, tonsillitis, pharyngitis and lymphadenopathy

Oral manifestations

- ▶ Circumoral pallor
- ▶ Soft palate, pharynx, tonsillar region, tongue are commonly affected
- ▶ Dorsal surface of the tongue exhibits a white coat through which fungiform papillae is visible: white strawberry tongue

- ▶ After 4 days, white coat desquamates, to reveal an erythematous dorsal surface with hyperplastic fungiform papillae: red strawberry tongue



Management

- ▶ Penicillin is drug of choice
- ▶ Acetaminophen or ibuprofen may be used to alleviate to pain and fever
- ▶ Analgesics mouthrinses (benzydamine hydrochloride) may be used for stomatitis

Noma





- ▶ Also known as
 - ▶ Cancrum oris
 - ▶ Gangrenous or necrotizing stomatitis
- ▶ Rapidly progressing opportunistic infection

Predisposing factors



- ▶ Poverty
- ▶ Malnutrition
- ▶ Immunosuppression (including HIV infection)
- ▶ Poor oral hygiene
- ▶ Unsanitary environment
- ▶ Leukemia

Etiology



- ▶ *Fusobacterium necrophorum*
- ▶ *Fusobacterium nucleatum*
- ▶ *Prevotella intermedia*

Clinical features



- ▶ Usually occurs in children 3 to 12 years
- ▶ Ulcerative areas of gingiva extend to involve adjacent soft tissues
- ▶ Necrotic areas spread to deeper tissues and superficially



- ▶ The overlying skin becomes deep blue to black
- ▶ Eventually skin sloughs away
- ▶ Extensive necrosis leads to bone exposure and osteomyelitis
- ▶ Pain, fever, malaise, foul odor and regional lymphadenopathy



Management



- ▶ Local wound care
- ▶ Restoration of hydration
- ▶ Nutritional and electrolyte balance
- ▶ Penicillin with metranidazole is antibiotic of choice

Cat scratch disease



- ▶ Cat scratch disease arises from inoculation of bacteria following a cat scratch or lick or bite
- ▶ Self limiting disease
- ▶ Occurs in children or young adults

Etiology



- ▶ Incubation period is 7 to 15 days

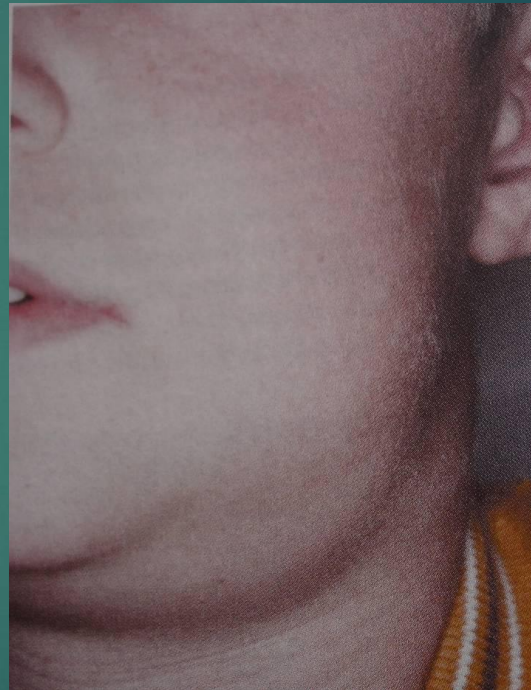
- ▶ *B. henselae*

Clinical features

- ▶ Mild fever, fatigue, malaise
- ▶ Pustule or papule at the site of trauma
- ▶ This is followed by regional lymphadenopathy that lasts for couple of months
- ▶ Lymphnodes can enlarge upto 10cm



- ▶ Criteria to diagnose cat scratch disease:
 - ▶ Contact with a cat, presence of scratch, or primary dermal or ocular lesion
 - ▶ Positive hangar rose skin test
 - ▶ Unidentifiable cause for lymphadenopathy
 - ▶ Presence of pleomorphic bacilli



Management



- ▶ Self limiting lesion
- ▶ Resolves in about 6 months
- ▶ Antibiotics such as gentamicin, penicillin, ciprofloxacin are used in systemic involvement

Actinomyces



What is it??



- ▶ Subacute chronic suppurative granulomatous diseases
- ▶ Or
- ▶ Acute and rapidly progressing infection

Types



- ▶ Cervicofacial
- ▶ Pulmonary
- ▶ Abdominal and pelvic
- ▶ Cutaneous and genitourinary

Etiology



- ▶ *Actinomyces israelii* and *A. viscosus*: filamentous, branching, gram positive anaerobic bacteria
- ▶ Normal saprophytic components of oral flora



- ▶ Organism enters through the area of prior trauma such as
 - ▶ Soft tissue injury
 - ▶ Periodontal pocket
 - ▶ Nonvital tooth
 - ▶ Extraction socket
 - ▶ Infected tonsil

Clinical features



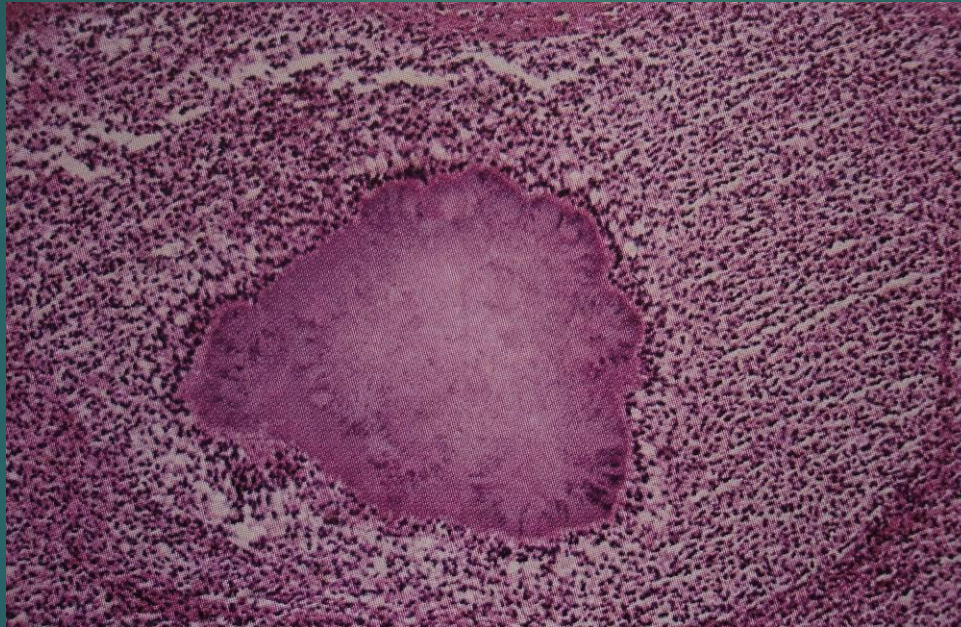
- ▶ Presence of suppurative or wooden indurated mass
- ▶ Discharging sinuses
- ▶ Pus from discharging sinuses contains tiny yellow sulfur granules
- ▶ Pain, fever, erythema, edema

Sulfur granules

- ▶ 1-6mm in diameter,
- ▶ consists of central tangled mass of gram positive mycelia surrounded at periphery by gram negative club shaped rods



Ray phenomenon: the periphery of granules shows filaments that are radially oriented and embedded in eosinophilic material



Management



- ▶ Sinus tract has to be surgically extracted
- ▶ Drainage of abscesses
- ▶ Long term antibiotic with penicillin and tetracyclines

Syphilis



What is it??



- ▶ Syphilis is also known as lues, is a chronic sexually transmitted disease
- ▶ Diverse clinical presentations and is characterized by periods of active disease and latency

Etiology



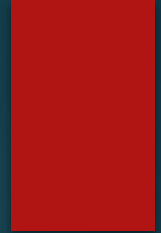
- ▶ *Treponema palladium*- microaerophilic spirochaete
- ▶ Transmitted by sexual contact or from mother to infant

Clinical features



- ▶ 3 stages
 - ▶ Primary syphilis
 - ▶ Secondary syphilis
 - ▶ Tertiary syphilis
- ▶ Congenital syphilis

Primary syphilis



- ▶ Chancre at the site of inoculation
- ▶ Becomes clinically evident in 3 to 90 days after infection
- ▶ Genitalia and anus are most common site
- ▶ Oral cavity is most common extragenital site

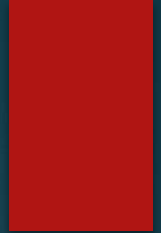
Painless, clean
based ulcer

Regional
lymphaden

If left untreated
lesion hec
to weeks



Secondary syphilis



- ▶ Disseminated form
- ▶ Occurs 4 to 10 weeks after initial infection
- ▶ Lymphadenopathy, sore throat, malaise, headache, weight loss, fever, musculoskeletal pain


Diffuse, painless maculopapular rash, which is widespread




Oral manifestation of secondary syphilis:

- ▶ Mucous patches
- ▶ Split papule
- ▶ Seen on lips, tongue, palate and pharynx
- ▶ Painless whitish mucosa with focal areas of exocytosis and spongiosis



- 
- ▶ Condyloma lata
 - ▶ Papillary lesion that may resemble viral papilloma

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- ▶ Snail tract ulcer
 - ▶ Serpiginous lesions that may arise denovo
 - ▶ Or may form by coalescence of a number of mucous patches

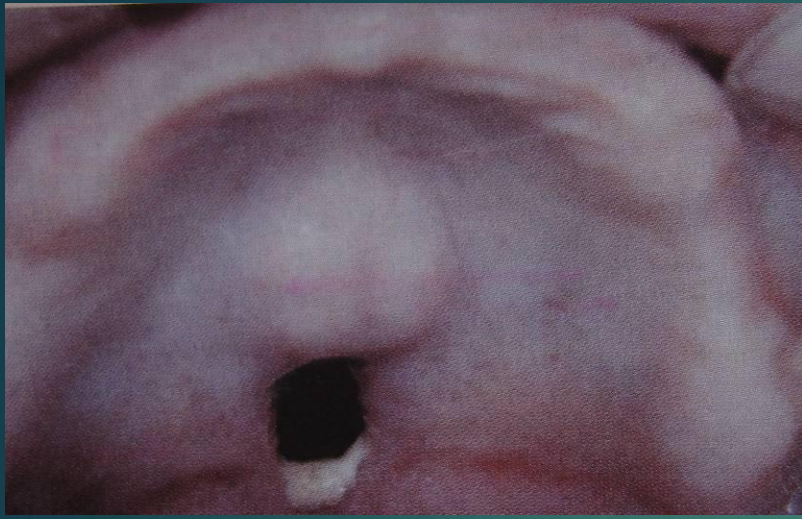
Tertiary syphilis



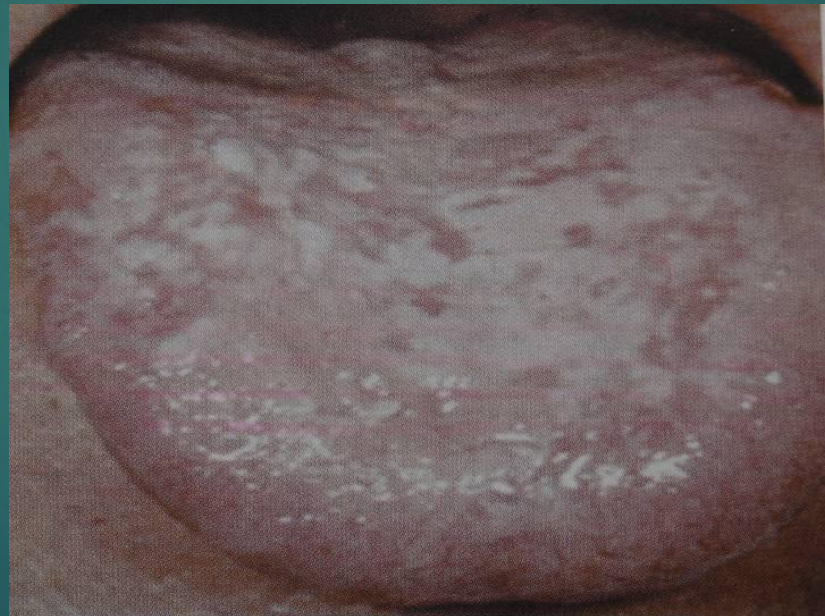
- ▶ Also known as latent syphilis
- ▶ 1 to 30 years
- ▶ Serious of all the complications
- ▶ Congestive heart failure, tabes dorsalis, psychosis, dementia, paresis and death



- ▶ Gumma: indurated nodular, or nodular or ulcerated lesion
- ▶ Extensive tissue destruction
- ▶ Affects tongue or palate
- ▶ When palate is involved, the ulceration frequently perforates through the nasal cavity



- ▶ Diffuse atrophy and loss of dorsal tongue papillae produce a condition called leucic glossitis



Congenital syphilis

- ▶ Hutchinson's triad:
 - ▶ Hutchinson's teeth- hutchinsons incisors and mulberry molars, Moon's molar
 - ▶ Interstitial keratitis
 - ▶ Eighth nerve deafness



Management



- ▶ Parenteral penicillin
- ▶ Testing for HIV is must

Tuberculosis



What is it??

- ▶ Tuberculosis is chronic infectious disease caused by *m. tuberculosis*
- ▶ Primary tuberculosis
- ▶ Secondary tuberculosis
- ▶ Miliary tuberculosis



- ▶ Secondary tuberculosis occurs in
 - ▶ Old age
 - ▶ Poverty
 - ▶ Crowded living conditions
 - ▶ AIDS

Clinical features

- ▶ Low grade fever
- ▶ Malaise
- ▶ Anorexia
- ▶ Weight loss
- ▶ Night sweats
- ▶ Cough with hemoptysis



- ▶ Involvement of skin is called lupus vulgaris
- ▶ Cervical lymphnodes are commonly involved
- ▶ In oral cavity- gingiva, mucobuccal fold, extraction sites, tongue, palate and lips
- ▶ Tubercular osteomyelitis



Management

- ▶ Isoniazid (INH)
 - ▶ Rifampin for 9 months
-
- ▶ INH
 - ▶ Rifampin
 - ▶ Pyrazinamide for 2 months;
 - ▶ Followed by INH and Rifampin for 4 months