


# ***BACTERIAL INFECTION OF ORAL CAVITY***

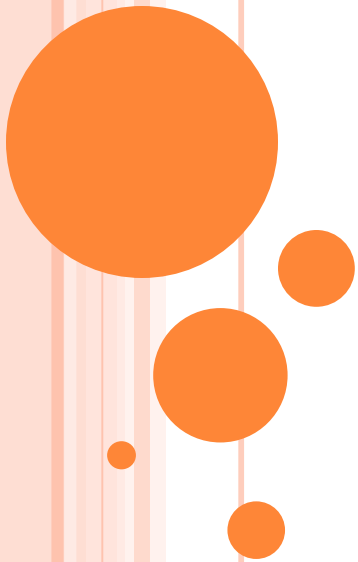
**Department of Oral Pathology  
& Microbiology**

# LEARNING OBJECTIVES

- At the end of the lecture student should be able to describe the
- etiology, clinical features, histopathological features of syphilis
  - etiology, clinical features, histopathological features of gonorrhea
  - etiology, clinical features, histopathological features of tetanus
  - etiology, clinical features, histopathological features of rhinoscleroma
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# BACTERIAL INFECTIONS-II

- Tetanus
- Syphilis
- Gonorrhea



# TETANUS( LOCK- JAW)

- Disease of nervous system characterized by intense activity of motor neurons and resulting in severe muscle spasms.
- Caused by exotoxins anaerobic gram positive bacilli *Clostridium tetani*.



# PATHOGENESIS

- Suitable anaerobic condition with low oxidation reduction potential spores of the *Cl.tetani* germinate
- Neurotoxin( tetanospasmin)
- Binds to peripheral motor nerve terminal, enters the axon



- Brain stem and spinal chord
- Toxin at synaptic and presynaptic terminates where it blocks the released of glycine and gamma –aminobutyric acid ( GABA)
- Resting fixing rate of locomotors neuron increases producing rigidity.



# CLINICAL MANIFESTATIONS

- occur within 14 days of infection.
- Generalized tetanus
- Spasm of masseter
- Stiffness and pain in jaws, neck muscles.
- Rigidity of facial muscles producing “**Risus sardonicus**”
- The contraction of muscles of back produces an arched back called as **Opisthotonos**



- Local Tetanus
- Spasm of muscles near the wound
- Cephalic tetanus is localized or generalized occurring in association with cranial nerve palsy most commonly 7<sup>th</sup> nerve

## **Treatment**

- Antibiotics
- Antitoxin





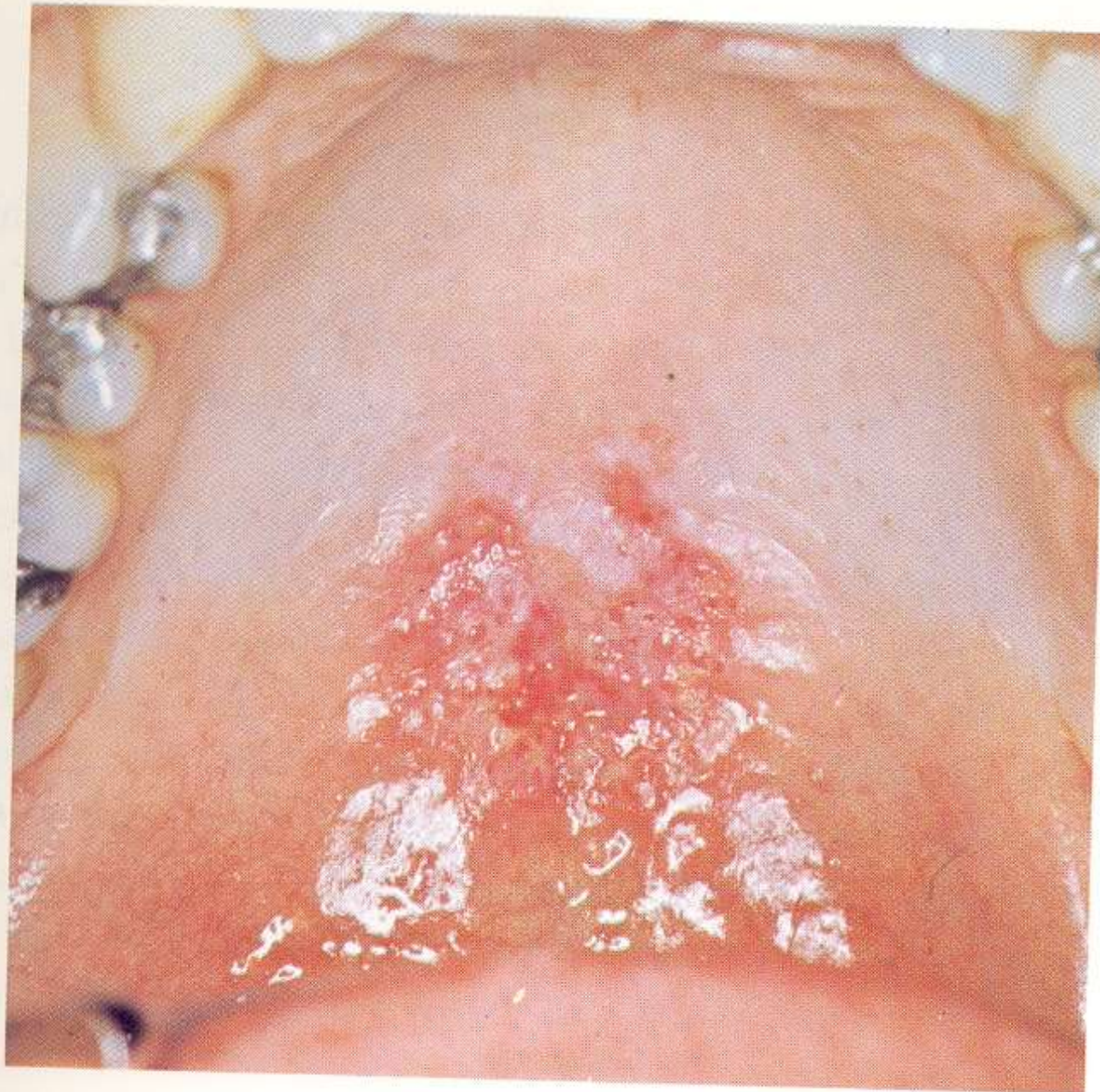
# SYPHILIS

- Caused by *Treponema palladium*
- Classified as acquired or congenital
- Acquired form is contacted as a venereal disease.
- Shows three stages: primary, secondary and tertiary.
- **Primary lesion** develops at site of inoculation 3 weeks after contact and called Chancre



- Intraoral chancre is an ulcerated lesion covered by grayish white membrane which may be painful because of secondary infection.
- Lesion abounds with spirochetes
- Highly infectious stage
- Chancre appears microscopically as superficial ulcer showing intense inflammatory cell infiltrate, particularly plasma cells
- Chancre heals spontaneously within 3 weeks to 2 months





Primary syphilis

## Secondary or metastatic stage-

- Appears 6 weeks after primary lesion.
- Characterized by diffuse eruptions of skin and mucous membranes.
- On skin appear as macules, papules and called mucous patches.
- Appear as multiple, painless grayish white plaques overlying an ulcerated surface



- Occur most frequently on tongue, gingiva and buccal mucosa.
- Ovoid or irregular in shape and surrounded by erythematous zone.
- Highly infectious
- Serologic reaction always positive
- Lesions undergo spontaneous remissions within few weeks but exacerbations may continue to occur for few months or years







Mucous patches in secondary syphilis



- **Tertiary lesions** appear after several years
- Involve CVS, and CNS
- Noninfectious
- Gumma
- Frequently seen in skin, mucous membranes, intraorally seen on tongue and palate
- may cause perforation by sloughing of necrotic mass of tissue



## Congenital syphilis-

- Transmitted to offspring from infected mother
- Frontal bossae, short maxilla, high arched palate, saddle nose, mulberry molars, protuberance of mandible, rhagades, shaver shin







# GONORRHEA

- Venereal disease affecting female and male genitourinary tract
- Transmission by fomites rare.
- Lips may develop painful ulceration, limiting motion, gingiva may become erythematous with or without necrosis.
- Tongue may present red, dry, ulcerations or become glazed and swollen with painful erosions



# RHINOSCLEROMA

- Caused by *Klebsiella rhinoscleromatis*
- Nodular lesions found in upper respiratory tract, originating in nose but involving lacrimal glands, orbit, skin, sinuses and intracranial invasion.
- Proliferative nasal masses produce the configuration called “Hebra nose”
- Oral lesions often occur on soft palate and enlargement of uvula is seen.



# SUMMARY

- etiology, clinical features, histopathological features of syphilis
- etiology, clinical features, histopathological features of gonorrhea
- etiology, clinical features, histopathological features of tetanus
- etiology, clinical features, histopathological features of rhinoscleroma



# BIBLIOGRAPHY

- Text Book of Microbiology Ananthanarayan R 7<sup>th</sup> Edition
- Text book of oral pathology Shafer's, 5 & 6<sup>th</sup> edition
- Color Atlas of Oral Diseases Cawson, R. 2<sup>nd</sup> edition
- Oral and Maxillofacial Pathology Neville, Brad W. 2<sup>nd</sup>
- Lucas's Pathology Of Tumor's of the Oral Tissues
- Cawson, R. A., Bennie, W. H 5<sup>th</sup> edition



**THANK YOU**

