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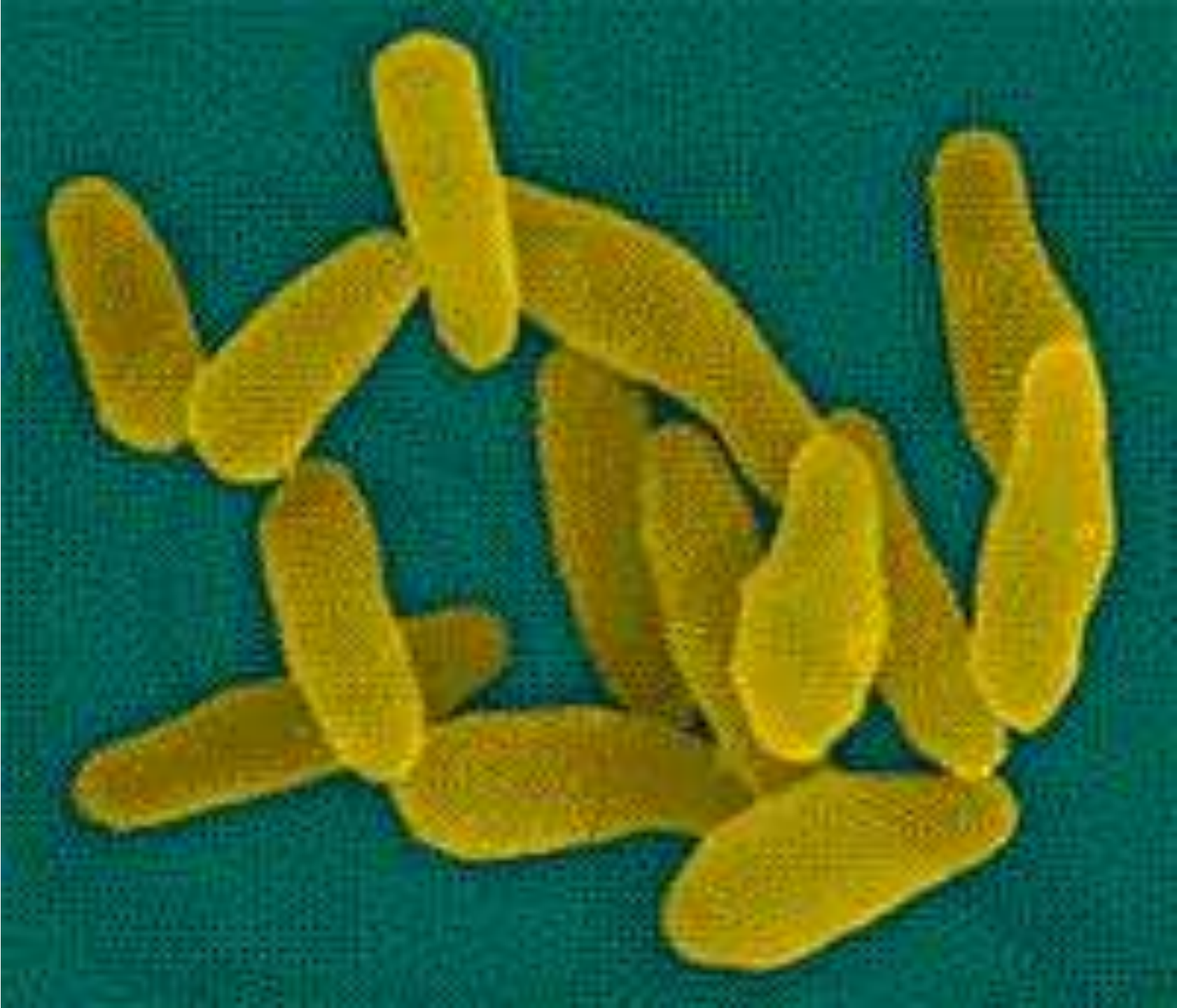
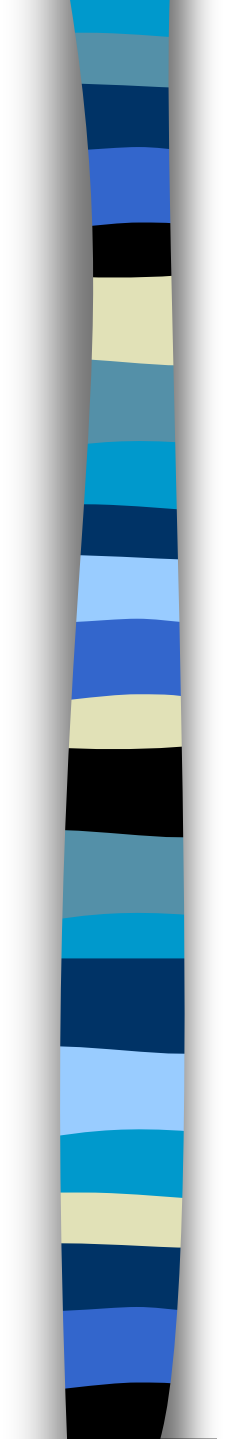


# *DIPHTHERIA*



# Etiology:

- \* *Corynebacterium Diphtheriae*
- \* Exotoxin producing
- \* Gram-Positive bacillus
- \* Tellurite agar
- \* Four Biotypes Mitis, Intermedius, Belfanti, Gravis





# Epidemiology:

- \* Exclusive Inhabitant of human
- \* Highly Contagious
- \* Route of transmission by aerosol / direct contact
- \* Skin infection / carrier are silent reservoir
- \* Viability in dust / fomite is upto 6m



# Pathogenesis:

- \* Local inflammatory reaction
- \* Tissue necrosis caused by exotoxin
- \* Pseudomembrane
- \* Gray brown, adherent
- \* Necrosis of kidney tubules
- \* Thrombocytopenia
- \* Cardiomyopathy
- \* Demyelination of nerves
- \* Immunologically mediated



## Clinical Features:

- \* Incubation period 2-4 days
- \* Influenced by site, immune status  
and production of toxin
- \* Insidious onset
- \* Mild to moderate fever



# Clinical Types:

1- Pharyngeal Diphtheria:

2- Laryngeal Diphtheria:

3- Nasal Diphtheria:

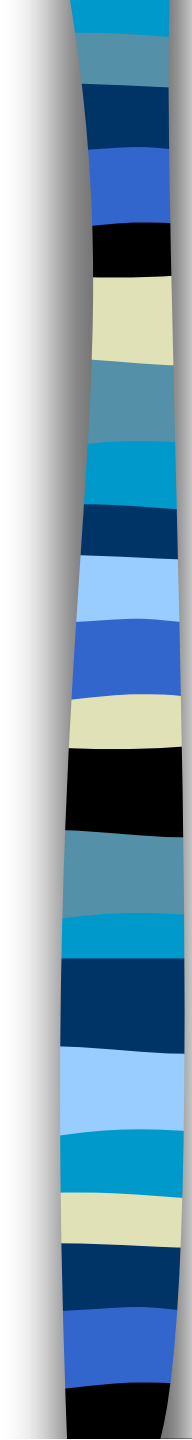
4- Cutaneous Diphtheria:

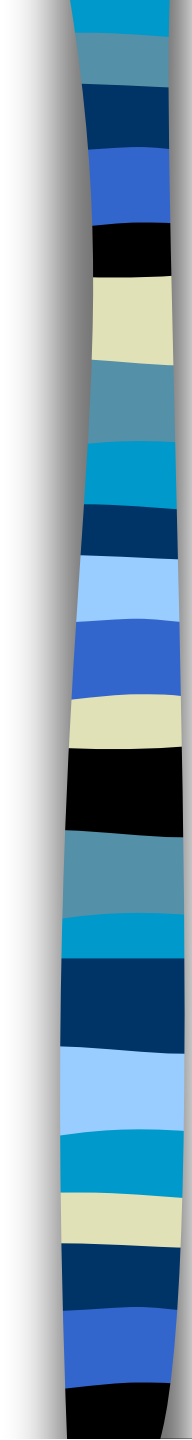




# Pharyngeal Diphtheria:

- \* Most common presentation (94%)
- \* Sore throat early symptom
- \* Only 50% are febrile
- \* Difficulty in breathing
- \* Grayish membrane, beyond faucial area
- \* Stridor / difficulty in breathing
- \* Bull neck appearance
- \* Tachycardia
- \* Palatal paralysis







# Laryngeal Diphtheria:

- \* Hoarseness of voice
- \* Brassy Cough
- \* Stridor
- \* Extremely anxious restless
- \* Cyanosis
- \* Highly prone to suffocation



## Nasal Diphtheria:

- \* Serosanguineous nasal discharge
- \* Excoriation of upper lip
- \* Foul odour
- \* White membrane



# Cutaneous Diphtheria:

- \* Indolent
- \* Non-progressive
- \* Superficial
- \* Non-healing ulcer
- \* Gray brown membrane





# Complications:

**1. Toxic Cardiomyopathy**

**2. Toxic Neuropathy**





# Complications:

## 1. Toxic Cardiomyopathy

- \* 10-25% of cases
- \* High mortality (50-60 %)
- \* 2<sup>nd</sup> – 3<sup>rd</sup> week of illness (1-6 wk)
- \* Tachycardia out of proportion to fever
- \* Weak thready pulse
- \* Distant heart sounds
- \* Signs of HF
- \* ECG
  - Prolong PR interval
  - Elevated ST segment
  - T wave changes
- \* Cardiac dysrhythmia
- \* Recovery is usually complete



## 2. Toxic Neuropathy

- \* Multiphasic
- \* Palatal and pharyngeal paralysis acutely or 2-3 wk
- \* Ocular paralysis 5<sup>th</sup> wk
- \* Polyneuropathy ( Symmetric) 10 d –3m
- \* Vasomotor center dysfunction
- \* Complete recovery is likely



### 3. Other Complications

- \* Bronchopneumonia
- \* Hepatitis
- \* Nephritis



Diagnosis:

Culture on loffler's and tellurite agar



# Treatment:

**1. Anti-toxin**

**2. Antibiotics**

**3. Supportive Measures**



# Treatment:

## 1. Anti-toxin

- \* Within 48 hours
- \* Single dose I/V
- \* Dose based on degree of toxicity, site, size of membrane & duration of illness
- \* Cutaneous 20,000 Units
- \* Mild Pharyngeal 20,000-40,000
- \* Mod. Pharyngeal 40,000-80,000
- \* Severe Pharyngeal 80,000-120,000



## 2. Antibiotics:

- \* Crystalline penicillin 100,000-150,000  
U/Kg/24hr
- \* Erythromycin 40-50 mg/kg/day
- \* Therapy is given for 14 days
- \* Stop treatment if two Successive cultures  
are negative



### **3.Supportive Measures:**

- \* Isolation
- \* Bed rest
- \* Feeding
- \* Fluid & electrolytes
- \* Tracheostomy
- \* Ventilation
- \* Immunize after recovery





# Prevention:

## **1. Immunization with DPT**

## **2. Asymptomatic case contacts**

- \* Take culture
- \* Erythromycin (40-50mg/Kg /day) -7days
- \* Benzathine Penicillin
- \* Diphtheria toxoid (if not given within 5y)

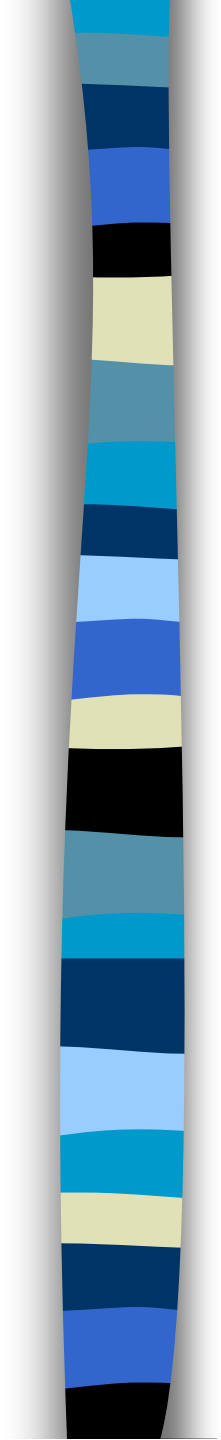
## **3. Asymptomatic carrier**

- \* Treat all carriers
- \* Diphtheria toxoid
- \* Take two cultures after completion of therapy

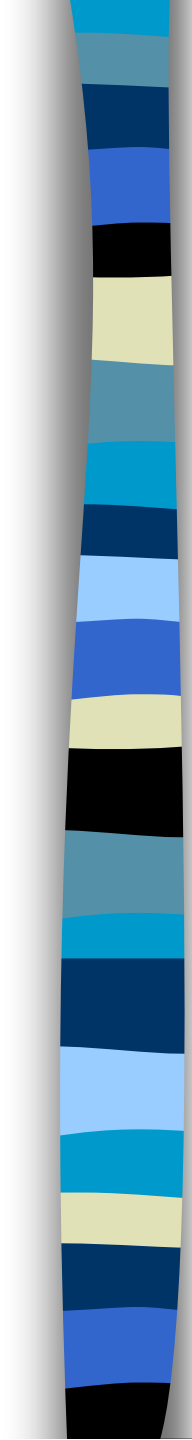


# Differential Diagnoses:

1. Acute streptococcal pharyngitis
2. Oral candidiasis
3. Herpetic stomatitis
4. Infectious mononucleosis
5. Acute Epiglottitis
6. Laryngo-tracheo-bronchitis
7. Foreign body nose
8. Guillain-Barre syndrome









*THANK YOU*