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# PERTUSSIS





# **Pertussis**

## **(Whooping Cough)**

- \* Pertussis : Intense Cough**
- \* Highly Infectious disease**



# **Etiology:**

- \* Bordetella Pertussis
- \* B.Parapertussis
- \* B. Bronchiseptica



# Epidemiology:

- \* World wide
- \* 1922-1948--- leading causes of death
- \* Endemic---Epidemic cycles
- \* Extremely contagious-attack rate 100%
- \* Immunity is never complete
- \* Protection begins to wane in 3-5 yrs after vaccination



\* Adolescents & adults are major  
Reservoir

\* Age : 1-5 yrs

\* Incubation period : 7-10 days

\* Infectivity : first 4 weeks

\* Transmission by droplet



# Pathophysiology:

- \* B. Pertussis produces many biologically active substances
- \* Inflammation of respiratory mucosa
- \* Patchy necrosis
- \* Tenacious mucopurulent exudate
- \* Bronchiolar obstruction :  
Atelectasis, Bronchiectasis

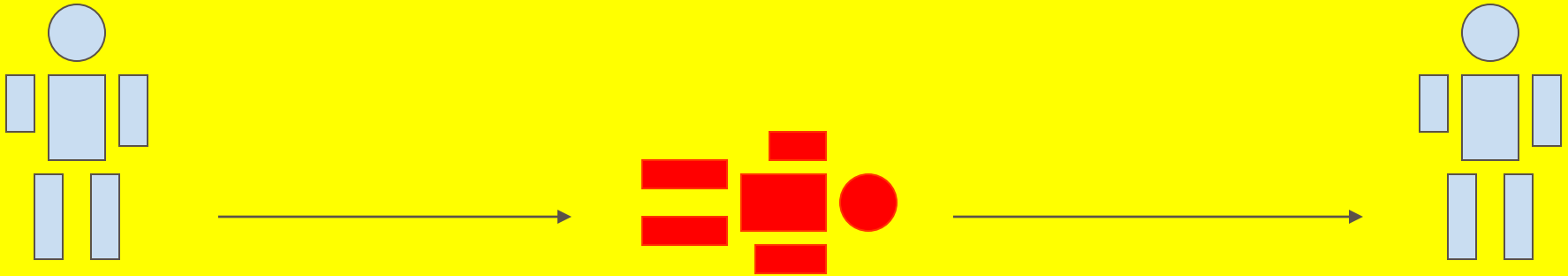




# Clinical Features:

- \* Pertussis is a 6 weeks disease
- \* **CATARRHAL STAGE (1-2 WKS)**
- \* Nonspecific features
- \* Congestion, Rhinorrhoea
- \* Sneezing
- \* Lacrimation, Conjunctival redness
- \* Low grade fever, mild cough

# Paroxysm





# Paroxysmal Stage ( 2-4 wks)



- \* Cough is first dry & intermittent

- \* Inexorable paroxysm

- \* Machine-gun burst of uninterrupted cough


- \* Series of coughing in single expiration

- \* Eyes bulging—watering

- \* Chin & Chest held forward

- \* Tongue protruding maximally




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- \* Face-Red-Blue
  - \* Whoop at the end of paroxysm
  - \* Post tussive emesis
  - \* Number & Severity of Paroxysm  
progress over days to weeks

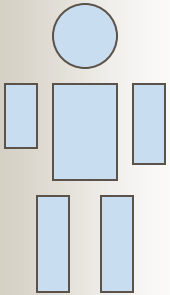


## **Infants < 3 months**

- \* No classical stages
- \* well appearing infants begins to choke
- \* Gasp & flail extremities
- \* Reddened face
- \* Cough may not be prominent
- \* Whoop infrequent

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- \* Immunized children have fore-shortening of all stages
  - \* Adults have no distinct stages
  - \* Number & severity of paroxysm progress & remain at that plateau
  - \* **Physical examination is unremarkable**

# Convalescent Stage ( 1-2 wks)



- \* Episodes of cough becomes less frequent
- \* Less severe
- \* Paroxysms of whooping disappear




# Diagnosis:

\*Clinical Diagnosis

Paroxysmal stage





\* Suspect if predominant complaint is cough especially following are absent

- Fever
- Malaise, Myalgias
- Rash
- Sore throat
- Hoarseness
- Tachypnea
- Wheeze
- Crepitations/ Rales



# Investigations:

1. Blood Count

Absolute Lymphocytosis  
(15,000-100,000 cells/mm<sup>3</sup>)

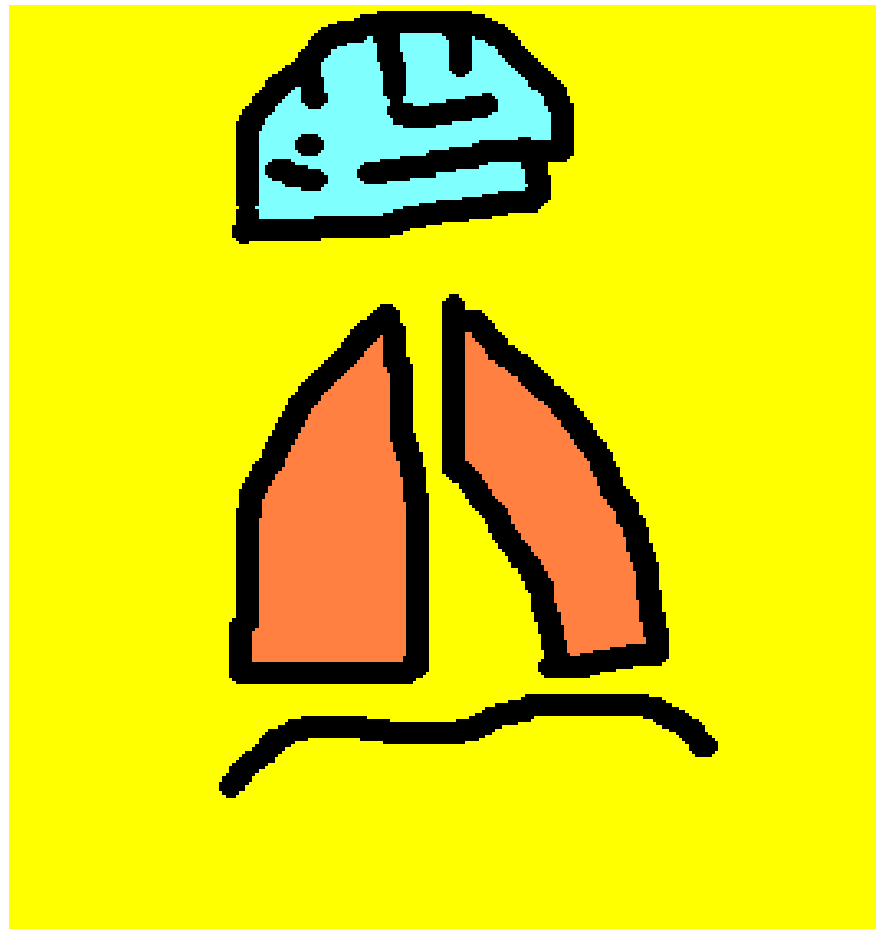
2. Fluorescent antibody staining

3. Cultures:

Nasopharyngeal aspirate

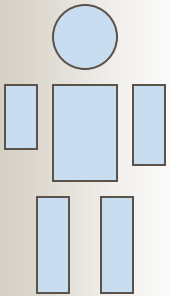
4. X-Ray chest

# Complications





# Complications:



1. Respiratory

2. Sequelae of forceful cough

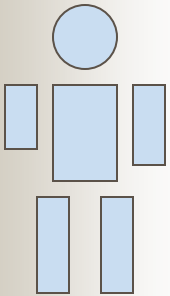
3. CNS



# 1. Respiratory

- Apnea
- Bronchopneumonia
- Atelectasis
- Bronchiectasis
- Emphysema—Interstitial / Subcutaneous
- Otitis media
- Reactivation of quiescent tuberculosis

## 2. Sequelae of forceful cough



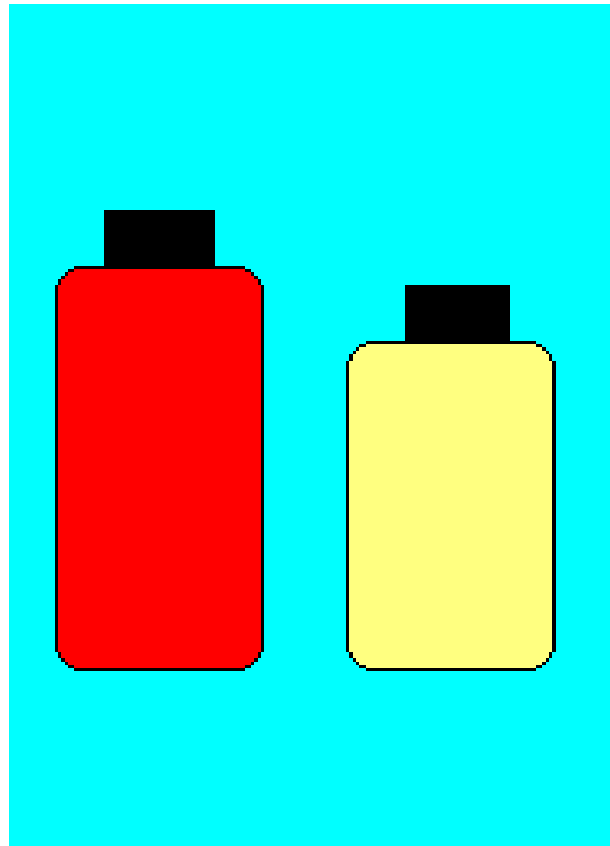
- Epistaxis, sub-conjunctival hemorrhage
- Intracranial Bleeding
- Rectal prolapse, umbilical hernias
- Dehydration, Malnutrition



## 3. CNS

- Convulsions.....Hypoxemia,  
Hemorrhage
- Encephalopathy

# Treatment:







# Treatment: Specific

- \* Erythromycin 40-50 mg/kg/day for 14 d
- \* Clarithromycin 15 mg/kg for 7 d
- \* Azithromycin 10 mg/kg for 5 d



# General Measures

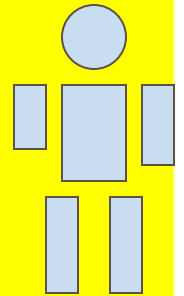
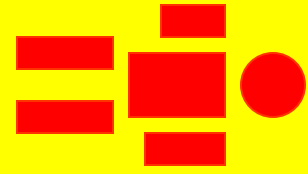
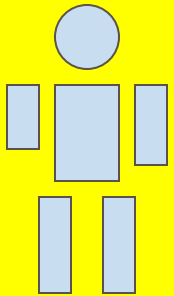
- \* Young infants should be hospitalized
- \* Adequate hydration, Nutrition
- \* Oxygen
- \* Gentle suction
- \* Cough syrup have no role

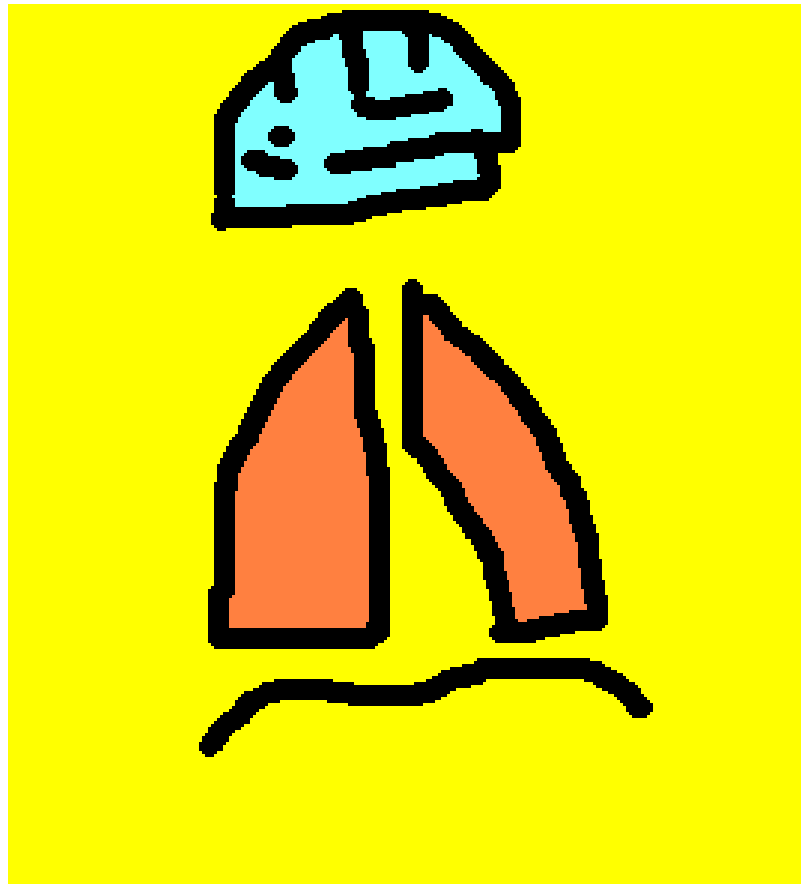


# Prevention:

- \* Pertussis vaccine is part of DPT vaccine
- \* All household contacts should get Erythromycin for 14 days
- \* Close contacts < 7 yr should get booster
- \* If documented pertussis infection exempt from routine pertussis vaccination









**Thank You**