# Pertussis

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# Introduction

- Caused by Bordetella pertussis
- B. parapurtusis can produce a similar but mild disease
- Some viruses produce similar picture (whooping cough like syndrome)

# Introduction

- Still a public health problem
- Does not produce long lasting immunity
- Adults are partially immune – get a modified disease
- Usually no mother to child transmission of protection
- Therefore can occur even in neonates

# Introduction

- No animal host
- Therefore asymptomatic adults play a major role in transmission
- More common and severe in females
- Morbidity and mortality is high in young infants

# Epidemiology

- A worldwide disease
- Tends to occur in epidemics in about every 5 - 7 years
- This is due to accumulation of a cohort of children with no immunity
- We have not experienced an epidemic recently
- Sporadic ??cases are reported

# Pathophysiology

- Spreads by droplets
- Highly infectious, around 80% of nonimmune close contacts will have clinical illness
- Incubation period 14 – 21 days
- Bacteria colonised the throat, a toxin produced by the bacteria may be helping them to establish in pharynx
- The clinical picture is thought to be immunologically mediated

# Clinical picture

- Has 3 phases
  - Catarrhal phase
  - Spasmodic phase
  - Convalescence phase
- Traditionally called 100 day cough

# Clinical features

- Bouts of spasms followed by whoop or apnoea
- In between child remain well with no physical signs
- Number of spasms a day will vary, peaks around 2 -3 weeks then gradually decrease

# Diagnosis

- In any child with cough lasting for more than 14 days suspect pertussis
- Typical paroxysmal cough followed by whoop
- Infants may not have the whoop
- Absolute lymphocytosis > 15,0000
- Post ptusive vomiting

# Laboratory diagnosis

- Pertussis is a clinical diagnosis
- Demonstrating the organism is mainly of epidemiological and academic interest
- Post-nasal swab is taken – need transport quickly
- Special growth media is needed to culture

# Management

- Macrolides are effective when given during catarrhal phase.
- Erythromycin is the best given for 7 – 10 days
- No clinical effect when given during spasmodic phase
- But given to eliminate the bacteria
- 5 day treatment make child non infectious

# Management

- Can manage at home
- Admit if cough is troublesome, recurrent apnoea or complications present
- Prevent unnecessary upsetting the child, which can provocate a spasm
- Steroids, antibiotics, bronchodilators, mucolytics, nebulization have not proven effective
- Oxygen is beneficial during cough spasms

# management

- Nutrition & hydration
- Isolation till given 5 days of macrolide
- Notification
- Antibiotics if secondary bronchopneumonia present
- If spasms are uncontrollable intubate and ventilate
- Intubation settles spasms, and with after extubating rapid resolution of cough

# Complications

- Bronchopneumonia
- Sub conjunctival haemorrhages
- Hernia
- Enchephalopathy
- Death

# prevention

- Immunization
- Killed whole cell vaccine or acellular vaccine