



## Vaccine-preventable diseases: They're still happening

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## Measles, 2000

- 8 year old male
- Unvaccinated
- Part of a family outbreak of 6 cases
- Index case: older sibling, contracted in UK
- 6 of 7 siblings unvaccinated (parental opposition) -- all developed measles except the vaccinated child

## Measles: Lessons & Challenges

- Greatest risk for measles: importation
- Not just Third World locations
  - UK: 736 cases 2006
  - Japan: 1000+ cases 2007
  - Switzerland: 480+ cases 2007
  - Germany, Korea
- Highly communicable

## Rubella, congenital -1996

- 5 month old female
- Presentation: chronic diarrhea, failure to thrive
- Congenital anomalies diagnosed:
  - PDA, VSD, microcephaly, hearing impairment
- Dx confirmation: IgM +, rubella viral culture +

## Rubella, congenital -1996, cont'd

- Maternal hx: 38 year old Yemen native
- Rash noted in 5<sup>th</sup> week of gestation, diagnosed urticaria
- Found susceptible to rubella on prenatal testing
- Prior pregnancy 1994: also noted to be susceptible at that time, post-partum vaccine recommended but no record was given

## Rubella: Lessons & Challenges

- Importance of prenatal screening AND follow-through for needed immunizations
- Diagnosis of VPDs can be hard to establish clinically
- Challenges of achieving immunization coverage in immigrant communities

\*Note: Presentation may not include all slides listed and the order may be changed.

## Varicella, 1997 adult death

- 42 year old male
- Presentation: epigastric pain, varicella-like rash
- PMH: emphysema, chronic bronchitis
- Course: hospitalized, possible viral pneumonia day 2, COPD, septic shock, DIC
- 3 children of case diagnosed with chickenpox in previous 3 weeks

## Varicella: Lessons & Challenges

- Adults at increased risk of severe disease
- Adults need vaccines
- Vaccination of children of this case might have prevented this adult death

## 2 Pertussis infant deaths, 2006

### Case 1:

- 19 day old female
- Presentation: 2 day hx rhinorrhea, difficulty breathing, congestion, wheezing, emesis, poor feeding
- On admission cyanotic, apneic, poorly responsive

## Pertussis, case 1, cont'd

- Labs: DFA +, culture +, CXR + for pneumonia
- Course: intubated; ventilator; progressive deterioration; renal failure; heart/lung placement
- Died 12 days post-admission
- Exposure/source: Adult household member with preceding cough illness, subsequently diagnosed with pertussis

## Pertussis, 2006 infant deaths

### Case 2

- 24 day old male
- Presentation: 1 week hx non-productive cough, congestion, difficulty breathing, decreased appetite
- Labs: pertussis PCR +

## Pertussis, case 2, cont'd

- Course/complications: pneumonia/respiratory failure, ventilator, acidosis, renal failure, heart/lung placement, MRSE/other septicemia
- Died 34 days post-admission
- Exposure/source: Multiple family members with prior cough illness

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## Pertussis: Lessons & Challenges

- Neonates, young infants at high risk of severe, complicated pertussis
- Cases illustrate importance of recent Tdap recommendations for contacts of infants
- Adult immunization is a challenge

## Tetanus, 2006

- 7 y.o. female, previously healthy
- Unvaccinated
- Presentation: 2 day hx seizure episodes
- 6 day hx back/chest pain, dysphagia, spasms, jaw trismus
- Wound on toe, uncertain origin; no care sought

## Pediatric tetanus case, cont'd

- Course: 25 day hospitalization
- Intubated
- Mechanical ventilation x 6 days
- Immunization history: signed waiver, parent declination, no medical contraindications

## Tetanus: Lessons & Challenges

- Tetanus is rare, but does occur
- Usually seen in adults, neglectful of Td booster
- Severe, painful course of illness
- Death rate ~ 10%; intensive care needed
- Substantial cost
- Routine immunization & boosters are highly effective prevention

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