MENINGOCOCCAL INVASIVE DISEASE

Epidemiology & Transmission

Source:
- Human only
- Upper Respiratory tract secretions

Transmission:
- Large droplets from upper respiratory tract
- Not by droplet nuclei
- Not fomites

Attack rate: 0.1%

Incidence rate 1 to 2 /100,000 /year

Carrier population

Long term carriage is protective

7 days before onset

Communicability

Confined group

Close contact

Oral secretions exchange

Majority: asymptomatic carriers

Recovery 80%
Mortality 10%
Disabilities 10%

Acquire new carriage
2-5 days incubation (max 14)
High risk * 800 disease

Fulminant cases (Waterhouse-Friderichsen) purpura,
disseminated intravascular coagulation, shock, coma.

Diagnosis / Treatment

Clinical Dx
Meningitis, Sepsis, Pneumonia
Petechial or Purpuric rash.

SeroGroups
A, B, C, W125, Y

Laboratory Dx
Gram stain CSF: Gram negative diplococcus
Culture of Blood /CSF: Neisseria meningitidis (Meningococcus)
Meningococci in upper respiratory tract site is not diagnostic (5% carriers)
Bacterial antigen detection in CSF. False-negative common
Positive antigen in serum and urine unreliable
PCR in serum or CSF (expe)
Follow up with Serogroup & PFGE

Send culture to State Lab

Treatment of Meningococcal Invasive Disease
Ceftriaxone, in children 25 mg/kg every 12 hours up to 1 g.
Adult dose, 1 g IV every 12 hours
Penicillin G, 50,000 U/kg every 4 hours IV,
up to 4 million U q 4 hours
Penicillin /cephalosporin allergic, chloramphenicol,
25 mg/kg every 6 hours IV up to 1 g 6 hours
Supportive Care
Common complications of meningococcal disease are
vascular collapse and shock, primarily caused by the effects
of meningococcal lipooligosaccharide, which is a potent
toxin.

Prevention / Chemoprophylaxis

Chemoprophylaxis
• eliminate nasopharyngeal carriage of close contacts
• reduce their risk of developing invasive disease
• does NOT prevent contacts from subsequently
acquiring the infection
• does NOT treat infection in those incubating disease.

Drug Age group Dosage Duration
Rifampin Children <1mo 5mg/kg q12hr 2 days
Rifampin Children ≥1 mo 10mg/kg q12hr 2 days
Rifampin Adults 600mg q12hrs 2 days
Cipro Adults 500mg Stat
Ceftriaxone Children <15 yr 125mg Stat IM
Ceftriaxone Adults 250mg Stat IM

An outbreak is defined by the occurrence of
3 or more confirmed or probable cases of identical serogroup
during a period of ≤ 3 months,
with a primary attack rate ≥10 /100,000 population.

Mass Immunization

http://www.infectiousdisease.dhh.louisiana.gov

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