Meningococcemia

Key Points:
- *N. meningitidis* is the second most common cause of meningitis in the United States
- Clinical presentation can be non-specific “flu-like” but look for a rash (petechiae) and rapidly progressive illness.
- Fulminant meningococcemia commonly causes DIC and can cause myocarditis
- Treat with penicillin or ceftriaxone and don’t forget to treat for exposure prophylaxis.

Definition
- Meningococcal disease is a spectrum of infections caused by the gram negative diplococcus *Neisseria meningitidis*

Epidemiology
- Now the second most common cause of meningitis in the U.S.
- *S. pneumococcus* #1; *H. flu* less common with increased vaccine use
- Colonization of the nasopharynx by *N. meningitidis* is necessary for systemic infection
- There is seasonal variation in attack rates – highest in March and February, lowest in Sept.
- NOT more common in college students, but more common in college students *on campus*
- Risk factors
  - Intimate contacts at increased risk (higher w/ kissing, at intubation, etc.)
  - Deficiency in terminal complement components
  - Possibly cigarette smoking, attendance at a “disco,” or preceding URI

Clinical Presentation
- Three distinct syndromes of meningococcal infection
  - From meningitis to meningitis + meningococcemia to meningococccemia alone
  - Clinical presentation is variable from non-specific to fulminant sepsis
  - Meningitis commonly presents with fever, headache, nausea/vomiting, and *severe myalgias*
  - Often initially present with pharyngitis (non-suppurative) and URI sx and rapidly progress
  - Rash is common (> 50% have petechiae at presentation)
  - Commonly on the trunk and lower extremities
  - Look at pressure sites – under the belt, clothing straps, etc.
- Labs
  - Leukocytosis, acidosis, renal failure are common
  - D.I.C. is common – presents as oozing from IV sites, gingival bleeding, etc.
    - Treatment is supportive
- Complications
  - Myocarditis is common (>50% of patients who died of meningococcus had it)
  - Purulent pericarditis is rare but patients can get post-infectious pericarditis

Diagnosis
- Positive blood cultures in 50-60% and positive CSF cultures in 80-90%
- CSF will have poly-predominant leukocytosis, low glucose, elevated protein

Treatment
- Empiric bacterial meningitis coverage: ceftriaxone, vancomycin, +/- ampicillin
- Can treat with penicillin or ceftriaxone while waiting for sensitivities
- Chloramphenicol for severe penicillin allergy
- Prophylaxis for contacts: Rifampin, cipro, azithro