TYPHOID FEVER


Take home points:
1. Think of typhoid in the differential diagnosis of “fever in the returned traveler”
2. Typhoid fever usually presents with fever and, in most cases, constipation (not diarrhea)
3. Diagnosis in the returned traveler is based on blood cultures or bone marrow cultures; not stool cultures
4. Treat with fluoroquinolones but realize that some strains are resistant

Epidemiology:
- Important disease around the world in developing countries where there are poor sanitary conditions; also think of this infection in the differential diagnosis of “fever in the returned traveler”.
- 16 million new cases per year; 600,000 deaths per year.
- Most prevalent in Southeast Asia; but can be seen in any area of poor sanitary conditions.

Pathogenesis:
- *Salmonella enterica* serotype typhi is a member of the Enterobacteracie family
- Infectious dose = 1000 to 1 million organisms
- Must survive the low gastric pH in order to get down to the small intestine where it makes its home; therefore any patient with low acidity in their stomach is at increased risk (patients with atrophic gastritis, patients on PPIs, etc).
- In the small intestine, the bacteria invade M cells in the Peyer’s patches and invade the reticuloendothelial system (lymph nodes, liver, spleen); gallbladder also can be involved.

Clinical features:
- Spread by fecal-oral route.
- Incubation period usually 7-10 days.
- Usually presents first as fever and malaise, flu-like symptoms. Then comes vague abdominal pain, fever (with normal pulse), and constipation.
- Note that HIV patients may present with diarrhea when they have typhoid fever.
- Rose spots (blanching macular and papular lesions approximately 2-4 mm in diameter) are present in 5-30% of cases and can be missed in dark-skinned individuals.
- Mortality caused by complications of typhoid fever.
- Diagnosis can be made by blood cultures (60-80%); bone marrow culture is even more sensitive.
- Stool culture is only 30% sensitive.

Treatment:
- Fluoroquinolones are the mainstay of treatment, but there are resistant strains

Search strategies on PubMed for this coversheet:
typh* [ti] AND review [pt] AND jsubsetaim

Key: [ti] = title, [pt] = publication type, jsubsetaim = core clinical journals subset