

Enteric Fever

Clinical Tropical Medicine

FACTM (Clinical) Pt 1

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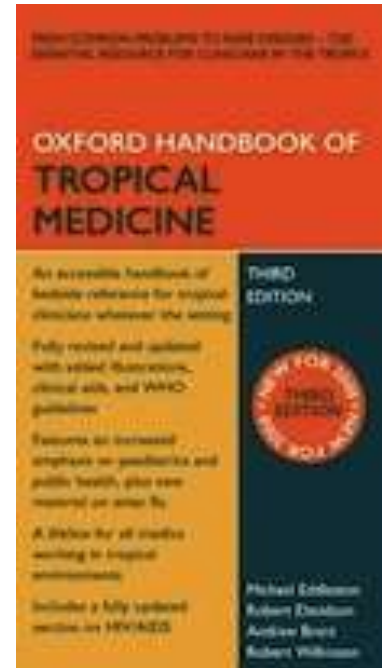
Enteric infection 1

EI 1 Clinical Tropical Medicine

EI 2 Clinical Parasitology 1

EI 3 Clinical Parasitology 2

EI 4 Travel & Expedition Medicine



Reading

Oxford Handbook of Tropical Medicine. 3rd edn. Eddleston et al. OUP, 2008. pp724-731

Manson's Tropical Diseases. Cook GC et al. 22nd edn. ISBN 978-1-4160-4470-3 Chs 40, 41. pp 715-761.



Outline

- Enteric fever
- **Synonyms:** typhoid fever, paratyphoid fever
- **Classical presentation:**
 - Progressive febrile illness with systemic & gastrointestinal features
 - Relative bradycardia
 - Blanching rash
- **Setting**
 - history of recent overseas travel or contact with known case
- **Exceptions**
 - adults may have constipation
 - signs of intestinal perforation may be subtle



Epidemiology



- **Where**
 - in Southeast Asia, Indian subcontinent, south Pacific islands, sub-Saharan Africa, Central & South America
- **Who:**
 - anyone consuming food & water contaminated with faeces or urine from people with typhoid or paratyphoid
- **When:**
 - International travel
 - Food contaminated by chronic carrier



Bacteriology

★ 4 types

- ✦ *Salmonella enterica* var *enterica* serotype Typhi (S.Typhi)
- ✦ S. Schottmuelleri
- ✦ S. Hirschfeldi
- ✦ S. Paratyphi

- ★ Gram negative, facultative intracellular bacillus
- ★ Only reservoir = humans
- ★ Cultured in/on standard lab media
- ★ members of larger enteropathogenic Salmonella group



Pathogenesis

- Ingestion of contaminated food or water
- Internalisation by mucosal epithelial cells
- Spread via gut lymphatics
- Primary bacteraemia
- Replication in liver, spleen and GALT
- Secondary bacteraemia
- Systemic sepsis



CMx: assess

- **Key questions:**
 - Has the patient travelled outside Australia?
 - Has the patient been exposed to biting insects or ticks?
 - Does the patient have malaria? Arbovirus infection? LSTM?
 - What food & drink did they consume?
- **Examination**
 - Fever: pattern
 - Abdominal pain, change of bowel habit
 - Rash: rose spots
 - False localising features
 - Dehydration
 - Shock
 - Altered conscious level



CMx: investigate

- **Key issues:**
 - Does the patient have malaria?
 - FBC, films, HRP2, baseline U&E, LFTs
 - Blood and other cultures
- **Culture:** S.Typhi bacteraemia early on, stools positive later, BM even after ABs
- **PCR assays:** rapid but limited availability
- **Serology?** Widal obsolete, rapid immunoblot or ELISA



CMx: decide

- Admit?
- Resus necessary?
- Which antibiotics?
- Will surgery be required?
- When to notify?
- What kind of follow-up



CMx: act

- **Antibiotics:**
 - Amoxicillin, Co-trimoxazole, Chloramphenicol
 - Ciprofloxacin
 - Ceftriaxone
 - Azithromycin
- **Shock:** Dexamethasone?
- **Intestinal perforation:** signs may be subtle?



Vaccines

Oral:

- Ty21a capsules

Injected:

- Formalin killed, multiple dose, booster requirement
- High risk overseas travel



Emerging issues

- **Imported disease**
- **New forms of antibiotic resistance**
- **Management of chronic carriers**
- **Risk of post-treatment relapse**
- **Biosecurity risk**

