Typhoid

- Caused by S typhi.
- Cont. Fever for 3-4 wks, brady-cardia and involvement of lymphoid tissue, other constitutional symptoms.
- Enteric fever- Typhoid and paratyphoid fever

Problem statement

- Present in all parts of the world where sanitation is a problem
- Socioeconomic impact is huge
- Endemic in India

Agent Factors

- S typhi along with S para A and S para B
- Three main antigens – O, H, Vi (epidemiological tool in tracing the source of epidemic)
- Killed by drying, pasteurization and common disinfectants
- Reservoir of infection: Man (cases and carriers)
- Carriers- Temporary/ Permanent
- Source of infection- Primary (faeces and Urine) and secondary (water, food, fingers and flies)

Host factors

- Age
- Sex
- Immunity: Ab to somatic antigen “O” is higher in disease, and Ab to flagellar antigen “H” is higher in immunized individuals.

Environmental factors- July to September

- Cannot multiply
- Survive in ice/ ice-creams for month
- Survive for 70 days in soil irrigated by sewage.
- Can survive & multiply in food and milk
- Index of general sanitation of a country

- **IP-** 10-14 days but varies from 3 days to 3 wks.
- **Modes of transmission**- faeco-oral or urine- oral route.
- **Clinical features**:
- Prodromal stage- malaise, headache, cough, sore throat, abdominal pain, constipation.
- Fever rises in stepladder fashion
- Pea soup diarrhoea
- Abdominal distension, spllenomegaly & tenderness
- Leucopenia and blood, urine and stool culture is positive
- Bradycardia,
- Rashes (rose spots)

- **Complications**- 30% of untreated cases
- Intestinal hemorrhage with sudden drop in temperature, sign of shock, dark or fresh blood in stool.
- Occurs in 3rd week
- Urinary retention, pneumonia, thrombophlebitis, myocarditis, psychosis, cholecystitis, nephritis & osteomyelitis

Control

1. Control of reservoir- Identification, notification, treatment, isolation (till three bacteriologic ally negative stools)

   Treatment: chloramphenicol (50 mg/ kg BW per day or 500mg 6 hrly)

   Cotrimoxazole, amoxycillin, ciprofloxacin

   Stool & urine should be disinfected with 5% cresol

   Follow up

- Carrier- Identification, treatment (ampicillin, probenacid) for 6 wks
- Cholecystectomy with concomitant ampicillin
- Surveillance & Health educatin

2. Control of sanitation
3. Immunization- Recommended in endemic area, close house hold contacts, HRG, travellers, those attending melas/yatras

   Vaccines

   a) Monovalent vaccine: Agar grwn, heat killed and phenol preserved containing 1,000 million of S typhi/ ml.

   b) Bivalent: Contain S typhi and S paratyphiin the proportion of 1000 million and 500 million resp. Organisms are killed and preserved by heating at 54 C for 1 hr & by addition of 0.5% phenol.

c) TAB vaccine- S typhi (1000 million), S paratyphi A(500-750 million), S paratyphi B (500- 750 million) org./ml

Dosage: 2 doses 0.5 ml, 4 to 6 wk apart, in children (0.25ml)

Site: s/c, deltoid region

Booster dose every 3 yrs

Reaction- local, malaise, headache, pyrexia

Live oral vaccine: Typhoral vaccine