



# **AN UNUSUAL PRESENTATION OF ENTERIC FEVER**

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# HISTORY

- 5yrs male child, developmentally normal
- Previously hospitalised for dengue with warning signs at 6 months of age

## Presenting complaints

- Intermittent high grade fever x 6 days
- Vomiting x 3days
- Pain abdomen, loose stools x 1 day
- Lethargy and decreased activity x 1 day.



## ON EXAMINATION:

- Sick, Lethargic
- Mild pallor+
- No bleeds
- No Eschar
- Tender hepatomegaly
- Ascites+
- Temp – 101F
- HR – 150/min
- CRT – 4 seconds
- Peripheral pulses +
- Central pulses +++
- NIBP – 99/60 (68)

**Fever, pallor, hepatomegaly**  
**Third spacing**  
**Compensated shock**



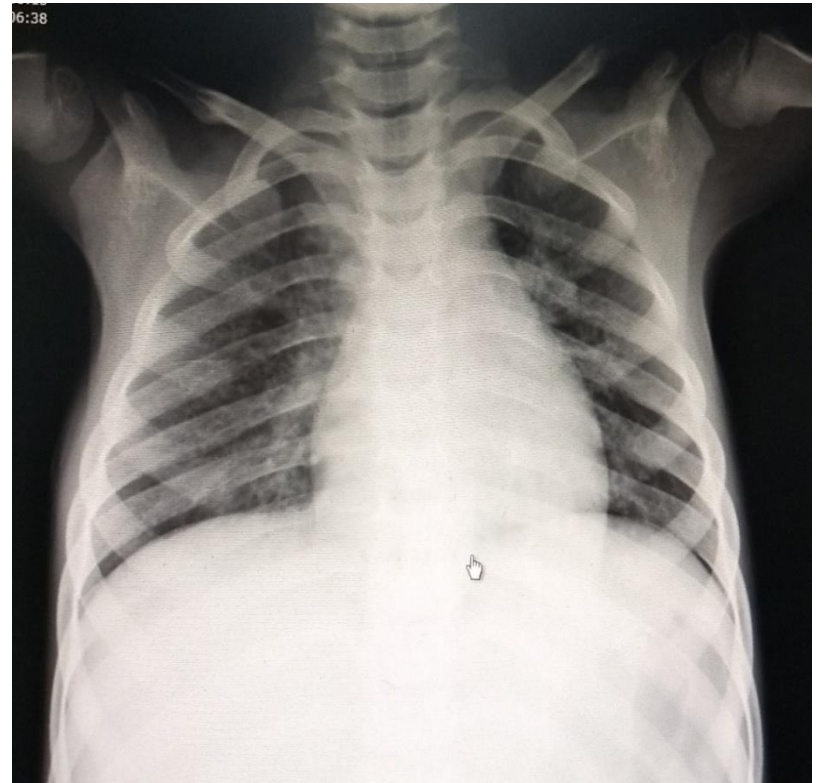
# DIFFERENTIAL DIAGNOSIS

- Septic shock
- Dengue with compensated shock
- Scrub typhus infection



# LABS:

- **Hb:8.1**, PCV : 25.4
- **TC:4500**(N75%,L46%)
- **Plt:68000**cells/cu.mm
  
- **CRP: 99mg/L**
  
- SGOT/SGPT/GGT:  
**214/62/243**
- Albumin: **2.1gm/dl**



# MANAGEMENT:

- Oxygen
- Crystalloid bolus (60ml/kg)
- Ceftriaxone, Vancomycin, Doxycycline

○ **Shifted to PICU**



## COURSE IN THE PICU:

- Hypotension, wide pulse pressure
- Required inotropes for 48hrs
- Shock improved



## LABS:

- **2D ECHO**: good LV function, no pericardial effusion
- **USG abdomen**: mild splenomegaly, mild ascites, bilateral pleural effusion, mildly thickened edematous GB wall.
  
- Scrub typhus IgM: Negative
- Dengue Serology: Negative
- **Blood culture: salmonella typhi**
- Urine culture: no growth





# FURTHER COURSE....

- Persisting fever
- Cytopenia
- High ferritin (4280ng/dl)
- Low fibrinogen (127 mg/dl)
  
- **SECONDARY HEMOPHAGOCYTTIC LYMPHOHISTIOCYTOSIS**



## CYTOPENIA IMPROVED

|          | 13.2.18 | 15.2.18 | 19.2.18    |
|----------|---------|---------|------------|
| Hb       | 8.1     | 7.1     | 7.2        |
| TC       | 4500    | 5300    | 8400       |
| Platelet | 68000   | 60000   | 2.74 lakhs |

Fever settled gradually  
Third spacing decreased  
Clinical well being+



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**COMPLICATED ENTERIC  
FEVER**

**SEPTIC SHOCK**

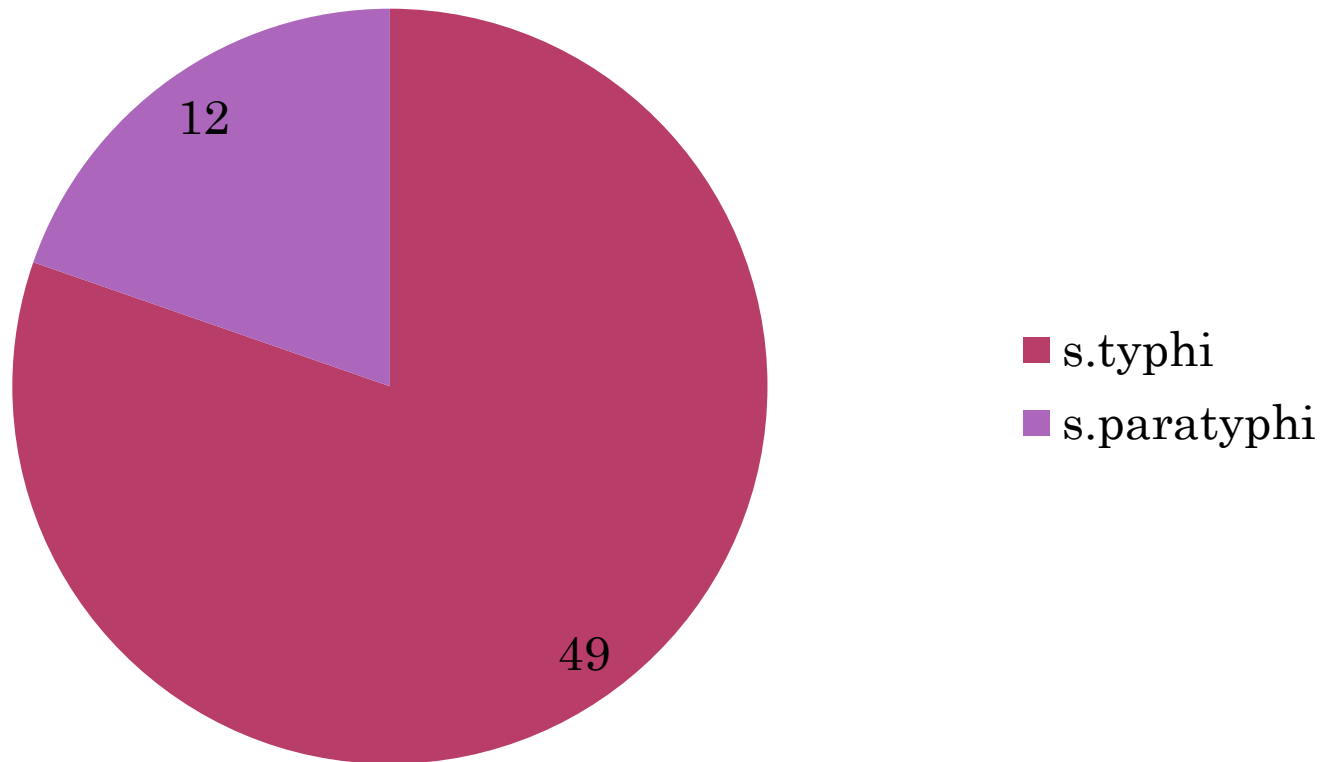
**SECONDARY HLH**

**Table 198-6 Extraintestinal Infectious Complications of Typhoid Fever Caused By *Salmonella enterica* Serotype Typhi**

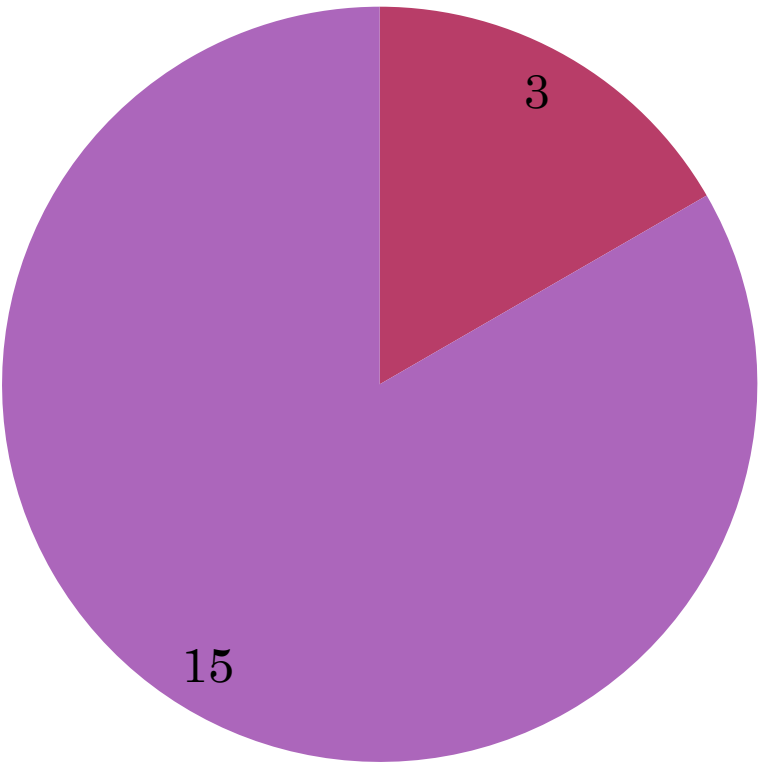
| <b>ORGAN SYSTEM INVOLVED</b> | <b>PREVALENCE (%)</b>   | <b>RISK FACTORS</b>  | <b>COMPLICATIONS</b>  |
|------------------------------|---|--|---|
| Central nervous system       | 3-35  | Residence in endemic region, malignancy, endocarditis, congenital heart disease, paranasal sinus infections, pulmonary infections, meningitis, trauma, surgery, and osteomyelitis of the skull | Encephalopathy, cerebral edema, subdural empyema, cerebral abscess, meningitis, ventriculitis, transient parkinsonism, motor neuron disorders, ataxia, seizures, Guillain-Barré syndrome, psychosis |
| Cardiovascular system        | 1-5   | Cardiac abnormalities—e.g., existing valvular abnormalities, rheumatic heart disease, or congenital heart defects  | Endocarditis, myocarditis, pericarditis, arteritis, congestive heart failure  |
| Pulmonary system             | 1-6   | Residence in endemic region, past pulmonary infection, sickle cell anemia, alcohol abuse, diabetes, HIV infection  | Pneumonia, empyema, bronchopleural fistula  |
| Bone and joint               | <1  | Sickle cell anemia, diabetes, systemic lupus erythematosus, lymphoma, liver disease, previous surgery or trauma, extremes of age, and steroid use  | Osteomyelitis, septic arthritis   |
| Hepatobiliary system         | 1-26  | Residence in endemic region, pyogenic infections, intravenous drug use, splenic trauma, HIV, hemoglobinopathy  | Cholecystitis, hepatitis, hepatic abscesses, splenic abscess, peritonitis, paralytic ileus  |
| Genitourinary system         | <1  | Urinary tract, pelvic pathology, and systemic abnormalities  | Urinary tract infection, renal abscess, pelvic infections, testicular abscess, prostatitis, epididymitis  |
| Soft-tissue infections       | At least 17 cases reported in the English language literature | Diabetes   | Psoas abscess, gluteal abscess, cutaneous vasculitis  |
| Hematologic                  | At least 5 cases reported in the English language literature  |  | Hemophagocytosis syndrome   |

# OUR HOSPITAL DATA – LAST 6 MONTHS

**culture proven**



# Inpatients



- complicated
- uncomplicated

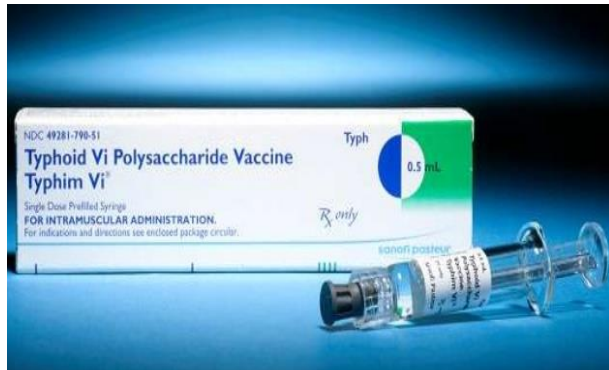


## LITERATURE REVIEW:

- Ugas, Melissa Brosset et al. “*Salmonella* Typhi–Induced **Septic Shock and Acute Respiratory Distress Syndrome** in a Previously Healthy Teenage Patient Treated With High-Dose Dexamethasone.” *Journal of Investigative Medicine High Impact Case Reports* 4.2 (2016): 2324709616652642. *PMC*.
- Sinha S, Nanda A, Mandal I. A case of *Salmonella* typhi **sepsis with acute encephalopathy and disseminated intravascular coagulopathy**. *Apollo Med* 2017;14:179-81.
- Enteric Fever Complicated with **Acute Pancreatitis and Septic Shock** Yusuf Kayar<sup>1</sup>, Aykut Ozmen<sup>1</sup>, *JOP. J Pancreas* 2016 Jul 08; 17(4):423-426.
- Hazouard E, Ferrandiere M, et al. Septic shock with coma revealing typhoid fever. 1998 Sep 5;27(25):1275-6.



# THANK YOU



## Whom to Vaccinate? Recommendations

### Indian Academy of Pediatrics (IAP)

- Recommends the new Vi-PS conjugate vaccine < 1 yr of age, preferably between 9-12 mths (min age 6 mths)
- Recommends for routine use

### Centers for Disease Control and prevention (CDC)

- Basic action can protect you from typhoid fever: Get vaccinated against typhoid fever

### World Health Organization (WHO)

- For people travelling in high-risk areas where the disease is endemic. People living in such areas, people in refugee camps, microbiologists, sewage workers and children should be the target groups for vaccination