TYPHOID IN CHILDREN

Typhoid is an acute febrile illness that can be fatal. It is being seen commonly in Pakistan, with a significant emergence of resistant strains.

Lumped together in the term Enteric fever, the causative agents are;

1) Salmonella enterica serovar Typhi

2) Salmonella Paratyphi A, B, C (mild disease)

The clinical features include;

* High continuous fever for 3 or more days
* Tiredness, weakness, aches and pains
* Abdominal pain, diarrhea or constipation
* Loss of appetite
* Coated tongue

Diagnosis ;

**Blood culture** is the ONLY definitive test

A CBC is generally normal often, may reveal leucopenia with relative lymphocytosis. Thrombocytopenia may be seen sometimes

Liver function tests may show elevation of ALT, AST

Serological tests (Typhidot, Widal) are NOT recommended

Classification based on culture and sensitivity;

\*Non-resistant Typhoid, i.e., sensitive to first line drugs (Ampicillin, chloramphenicol), 2nd line drugs (fluoroquinolones) and 3rd line drugs (Cefixime or Ceftriaxone)

\*Multi-drug resistant Typhoid, (MDR) i.e., resistant to first line drugs (Ampicillin, Chloramphenicol) but sensitive to 3rd generation drugs (cefixime, ceftriaxone)

\*Extensively resistant Typhoid, (XDR) i.e., resistant to all of the above

Management ;

1. **Specific**; After blood cultures obtained, start on oral Cefixime in a total dose of 20 mg/kg day, given in 2 doses , every 12 hours for 10-14 days.

**For MDR Typhoid**, treat with Ceftriaxone IV, 75mg/kg/day, given in 12 hourly doses.

**For XDR Typhoid**, Azithromycin, 10mg/kg/day, given once a day, by mouth for 10 days. In very sick children, and those unable to take medicine by mouth, Meropenem, 60 mg/kg/day, given in 3 doses, IV, for 14 days. Complicated cases may require dexamethasone 3mg/kg first dose then 1mg/kg/dose 6 doses for next 48 hours 

1. **Supportive**; Fluids, antipyretics, appropriate nutrition
2. Remember, the child should be protected from Typhoid fever with the Typhoid vaccine, beginning at 2 years of age and then given booster doses every 2-3 years. For those who have had confirmed Typhoid fever, a dose of Typhoid vaccine must be given one month after completion of therapy.

**Reminders;**

* + Typhoid fever is common and being seen in children and infants
  + Continuous high fever should alert pediatricians to the possibility of this diagnosis
  + Blood culture is the ONLY diagnostic test
  + Treat as if it is sensitive to commonly used drugs. Start with Cefixime
  + If blood culture reveals XDR typhoid, only then give Azithromycin, by mouth
  + Use single drug, not two at a time

Reference;

1)World Health Organization : <http://www.who.int/iris/handle/10665/68122>

2) https://www.int/esr/don/27-december-2018-typhoid-pakistan/en/