Childhood TB

Introduction

- Clinical features of infection follow a different pattern from that of an adult.
- Unlike in the adult in whom the diagnosis is made on bacteriology ,in the child , it is made on epidemiological grounds & on indirect evidence.
- To distinguish between infection & active disease is not always easy.

Mode of entry of TB

- By inhalation
- Through ingestion into GI tract
- Others
- A) transplacental
- B) mucous membranes of mouth
- C) skin

Clincal features

- 1.failure to thrive
- 2.repeated attacks of respiratory infections
- 3.repeated episodes of asthmatic bronchitis
- 4.unexplained pallor
- 5.Incomplete recovery from measles

- 6.any child with moderate undernutrition
- 7.progressive abdominal distention with hepatospenomegaly
- 8.low grade persistent fever
- 9.anorexia:repeated attacks of abdominal pain

Miliary tuberculosis

- Most serious form of TB & due to widespread hematogenous dissemination of bacilli.
- Occurs within one year of primary infection
- Lymphadenopathy,hepatomegaly & hepatosplenomegaly

- The characteristic radiological appearance of miliary mottling may be absent , in the initial stage of miliary TB
- Repeated radiological examinations may be necessary in suspected cases.

Epidemiology

- Diagnosis is often presumptive based on clinical picture ,radiological appearance & contact history rather than on the isolation of tubercle bacillus from the patient.
- Unfortunately , epidemiology of childhood TB has not attracted much attention from public health workers.

- Most probably, because the affected children do not propagate the disease actively but only suffer from it.
- Approx.0.5 to 1 million children suffer from complications of primary infection in the age group 1-4 years.

- Main constraint in determining prevalence of childhood TB as against adult TB
- 1.unreliability of MMR as a screening procedure.
- 2.non-feasibility of sputum exam of children

- Taking 0 to 14 years as a whole group TB of lungs does not form a major cause of mortality.
- Thus a review of available statistics does not indicate that childhood TB is a major health problem.
- Chandrasekhar found that in a Bangalore hospital TB was 4.66 % of all deaths.

- His study also indicated that TB as a cause of mortality & morbidity is much less common compared to gastroenteritis & other respiratory diseases.
- There is considerable difference of opinion about the magnitude of the problem between paediatricians & tuberculosis experts. Chandrasekhar has reported that TB is not a major health problem

- Paediatricians , all over the country ,relying on their clinical experience in hospitals say that hospital admissions form only the tip of the iceberg and more work has to be done before one can say that childhood TB is not a public health problem.

Mantoux test

- Mantoux is the single most important diagnostic test for childhood TB.
- Specimens collected in children are-
- 1.gastric aspirate-yields in 30-40 %
- 2.CSF
- 3.urine
- 4.pleural & ascitic fluid
- 5.bronchoscopic aspirate

Imaging

- In majority lymph node enlargement is more common than parenchymal lesion
- CT scan chest delineates node better
- Segmental collapse consolidation
- Miliary TB
- Pleural involvement is more common in adults than in children

Management

- 1.mantoux positive , clinically & radiologically normal – INH for 1 year
- 2.symptomatic + mediastinal adenitis with or without parenchymal infiltration + mantoux positive – INH + Rmp 6 months
- 3.progressive primary TB , severe parenchymal involvement – INH ,Rmp ,Pzm (3 drugs)

Disseminated TB

- 4.serious tuberculous disease (disseminated TB)
- INH ,Rmp – 9-12 months
- Sm 25 mg/kg/day 2 months
- Steroids – dexamethasone 0.5-0.8mg/kg/day 1 month then taper off