

# **FEBRILE CHILD**

**BY**

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# Learning Objectives (Contents)

- \* The physiology of fever.
- \* Measurement of temperature in children.
- \* DD of childhood fever.
- \* Fever without apparent source.
- \* Convulsion associated with fever.
- \* Conclusion.

Case:

A 3-year-old girl is presented with her father to your clinic. The father said, he is having fever since yesterday.

How would you approach the child?

# Introduction:

- \* Every child has occasional febrile illness.
- \* From birth to 2 years of age – 65% visit Drs.
- \* Mostly: trivial and self-limiting, but ...
- \* —————→ Severe illness ??

## Introduction: (cont'd)

- \* 3-4% of children (6 months – 5 years) have associated convulsion with febrile illness.
- \* 11% of visits to family physicians.
- \* 9% of visits to pediatricians.

## Physiology:-

### \* Fever:

- Is an elevation of the temperature set point associated with ↑ pulse and disturbed body functions.
- No single endogenous cause of fever.
- Number of cytokines in response to infection.

## Physiology:- (cont'd)

### \* Fever:

- ↑ Mortality when the fever response is blocked.
- So fever response is beneficial.
- Children → higher fever than adults.
- Very young infant or premature → minimal or absent fever response.

# Assessment of Temperature:

- \* Normal body tem.  $36.4-36.9C^0$ .
- \* Diurnal variation of  $0.3C^0$ , highest evening.
- \* Febrile  $\longrightarrow$  Temp. 1 degree  $C^0$  (2 degree F) above the pt's baseline ( $> 37.7C^0$ ).



# Assessment of Temperature: (cont'd)

- \* Oral or rectal or axillary.
- \* Touch.
- \* Axillary – Tempa – Dot.
- \* Forehead: fever – scan.
- \* Tympanic membrane – electronic.

## D DgX:

- \* Long list.
- \* Most common cause ??  
    URTI and OM
- \* UTI, Pneumonia, meningitis.
- \* Child previous health, reasonably well or ill and any associated symptoms.

## D Dgx: (cont'd)

### History:

- \* Duration of fever.
- \* Associated symptoms.
- \* Previous health, growth and development.
- \* Health of the rest of the family.
- \* Immunization.
- \* H/O travel recently.
- \* Contact with other infected individuals.

# Examination:

- \* Source of Infection ?
  - Throat.
  - Ear.
  - Rash.
  - Chest.
  - LN.
  - Joints.

## Fever without Apparent Source:-

- \* 20% of children.
- \* Most of these < 3 years.

## Investigation:-

- \* Age < 2 months.
- \* High fever.
- \* Known predispose to infection.
- \* Older child (esp. > 2 yrs).
- \* Looks well.
- \* Low grade fever.
- \* Localized minor illness e.g. URTI.

# Occult Bacteremia:

- \* 3% of these children, not toxic and no clinical evidence of sepsis.
- \* < 3 months → up to 10%.  
Usually investigated:  
(Blood, urine, ± CSF, chest X-ray).
- \* Meningitis: 3-6% strep → pneumonia meningitis with 10% mortality and 30% neurological sequace.

# UTI :

- \* In young infants – usually no specific symptoms.
- \* 6-8% of febrile girls and 2-3% of boys less than one year.
- \* Very high fever increase the chance.
- \* Younger the child, more possibility.
- \* Clean-catch sample?
- \* Importance of UTI up to 4 years.



# Febrile Convulsion (FC):

- \* 5% of children effected during childhood.
- \* 6 months to 5 years (9-20 months).
- \* Fever can be cause of convulsion.
- \* Male more than female.
- \* F/H + ve.

# Febrile Convulsion and Epilepsy

- \* Any abnormal development before (FC)
- \* Family history without fever.
- \* Complex first FC.

# Febrile Convulsion (FC): (cont'd)

- \* Complex Seizers:
  - Prolonged.
  - Multiple seizures in 24 hours.
- \* Recurrence:
  - 30 – 40%.
    - ↑ In young age
    - Family history
    - Low or short duration of fever before seizures.

# Febrile Convulsion (FC): (cont'd)

- \* Complex Seizers:
  - Prolonged.
  - Multiple seizures in 24 hours.
- \* Recurrence:
  - 30 – 40%.
  - In young age
  - Family history
  - Low or short duration of fever before seizures.

# Febrile Convulsion and Epilepsy (cont'd)

- \* Careful history and examination.
- \* LP.
- \* CT.
- \* EEG.
- \* Antipyretic.
- \* Anticonvulsant treatment and prophylaxis.

# Fever Management

# Fever Management:

- \* Search for sources.
- \* Consider watching and waiting.
- \* Antipyretics.
- \* Fluids intake.
- \* Consider investigation in high risks.

# Conclusion:

- \* Fever is part of the adaptive response to infection.
- \* Could be associated with convulsion in susceptible children.
- \* Most fevers are caused by mild URTI.
- \* In children with fever without apparent source, there is a 3% incidence of occult bacteraemia.



## Conclusion: (cont'd)

- \* The threshold for investigation of children with fever is lowest in youngest pts.
- \* UTI is important and treatable cause of fever.
- \* Prolonged fever always requires investigation.