

* Definition

They are defined as seizures during fever ,occurring between 6 months and 5 years of age in the absence of infection of CNS , in a neurologically normal child.

- * They are frequently genetically determined.
- * The convulsions are not related to the degree of temperature, but are frequent if temperature rises rapidly.

- * Febrile convulsions are of 2 types
 - :Simple febrile convulsions
 - :Atypical febrile convulsions

* Simple febrile convulsions

:seizure occur within 24 hour after the onset of fever, last less than 15min and are usually single per febrile episode

:convulsions are generalised

:there is no postictal neurological deficit

* Atypical /complex febrile convulsions

:Lasts more than 15mins /multiple episodes occur within 24hrs

:generally seizures are focal

- A febrile seizure that lasts more than 30mins is called **febrile status epilepticus**.It occurs in upto 5% febrile seizures

Differentiation from meningitis

- * Infections of CNS like meningitis ,encephalitis can also cause convulsions associated with convulsions .
- * Lumbar puncture is done in first episode of febrile seizures ,in infants below 1year who are not immunized with Hib and pneumococcal vaccine/if immunization status is not known/if meningitis is suspected.

Investigations

* **Lumbar puncture:** done in children below 12 months of age after first febrile seizure to rule out meningitis.

:children between 12-18 months of age also considered as clinical signs of meningitis maybe subtle in this group

:for more than 18 months of age its is done in the presence of clinical signs and symptoms of meningitis [stiff neck, kernig sign] or if history or clinical examination suggest intracranial infection

Electroencephalogram

- if first febrile seizure and neurologically healthy then not required
- If done then usually done after 2 weeks of seizure.
- Done for at least 30 min of wakefulness and sleep to avoid misinterpretations
- Can be done in cases where risk of epilepsy is high
- if the seizure is prolonged, then EEG can help distinguish between ongoing seizure activity and a prolonged postictal period termed as **non epileptic twilight state[NETS]**

Blood studies

- ☐ CBC
- ☐ Blood glucose for children with postictal obtundation or those with poor oral meal
- ☐ Serum electrolytes

Neuroimaging

- CT
- MRI

Treatment of febrile seizures

☐ Thorough history and detailed general and neurological examination must be done.

1. Reduction of temperature by

:antipyretics

:hydro therapy

2. Maintain airway , breathing and circulation

3.If seizure lasts for >5min then acute treatment with diazepam/ lorazepam/midazolam is needed

4.Rectal diazepam is given for recurrence of seizures lasting for>5min

5.If parents are anxious then intermittent oral diazepam can be given during the febrile seizures[.33mg/kg every 8 hr during fever]

6.For prolonged convulsions i.v access

: for hydration

:anticonvulsants

7.Iron therapy is done incase of febrile seizure because many studies have shown that they were associated with low serum iron.

Prophylaxis

* 2 types : continuous

: intermittent

Intermittent prophylaxis

done when : 3 or more febrile seizures in 6 months/6 or more in 1 year /febrile seizure lasting for more than 15 min/need drugs to control seizures

Includes: clobazam {.75mg/kg/day}

:antipyretics

:hydrotherapy

:temperature recording

* Continuous Prophylaxis

done when : failure of intermittent therapy

:recurrent atypical seizure

:patient cannot promptly recognize onset

of fever

- ❖ Sodium valproate{10-20mg/kg/day}
- ❖ Phenobarbitone{3-5mh/kg/day}
- ❖ Duration of therapy : for 1-2 year / until 5 years of age.

Prognosis

Risk factors for epilepsy

- **Major** : age <1 year
 - :duration of fevr <24hr
 - :Fever 38-39 degree celsius

➤ **Minor:** family h/o febrile seizures

:family h/o epilepsy-generalised epilepsy with febrile seizures+[GEFS+] and Dravet syndrome/severe myoclonic epilepsy of infancy

:complex febrile seizure

:day care

:male gender

:lower serum sodium

Risk % for recurrence

- ✓ No risk factors -12 %
- ✓ 1 risk factor-25-50%
- ✓ 2 risk factor-50-59%
- ✓ 3 or more – 73-100%

* Risk of occurrence of subsequent epilepsy

Simple febrile seizure -1%

Neurodevelopmental abnormalities-33%

Focal complex febrile seizures-29%

Family history of epilepsy -18%

Fever <1hr before febrile seizure-11%

Complex febrile seizure anytype-6%

Recurrent febrile seizure -4%

* **Management of risk**

Low risk-no therapy or investigations are required.

High risk-EEG and imaging

-Intermittent oral diazepam / for recurrence
give continuous therapy.