Febrile Seizure

Definition:
Seizure in infancy or childhood
usually 3 months to 5 years
associated with fever
no evidence of intracranial infection
no defined cause

Categories
Simple
< 15 minutes
do not recur with in 24 hours
post-ictal: normal neurologic status
Complex
Focal
> 15 minutes
recurrent
may have post-ictal abnormalities like Todd’s paralysis

Future Risks
Epilepsy
Greatest in
Abnormal neurologic development at time of 1st febrile seizure
Complex first febrile seizure
Family history of afebrile seizure

Epidemiology
2-4% by age 5
risks for development
height of fever
male
family history in 1st or higher degree relative
recurrence
1/3 will have recurrence
½ of those 1/3 with have further recurrences
risk of recurrence
simple vs complex not a risk factor
young age at onset
family history of febrile seizure
lower fever associated with fever
brief duration b/n fever and onset of seizure
low serum sodium

Etiology/Cause
Height of fever versus rate of rise
Associated illnesses
Most common
Otitis media
Viral illness
Rate of bacteremia of children with febrile seizures is similar to all children with fever ~3-5%
Children with febrile seizure are not at increased risk for uti or bacteremia
HHV6 and HHV7 may be associated

Less Common
Pneumonia, AGE, Stomatitis, Varicella, bronchiolitis, urinary tract infection, conjunctivitis

Key Historical Findings
Must rule out many diseases
Detailed account from witness
Past history of
  Febrile or afebrile seizures
  Trauma
  Ingestion
  Family history of Febrile or afebrile seizures
  Other medical problems

Key Physical Findings
Neurologic
  A complete exam necessary
  Look for signs of focality
  Make sure returned to baseline
  No signs of meningitis

Other
  Look very closely for source of fever

Diagnostic Options
Consider the age of patient, height of fever, history and physical
Blood
  CBC
    Not useful for febrile seizure
    May be indicated for work-up of fever
  Electrolytes
    Not useful unless child actively seizing
  C-RP
    Not indicated for febrile seizure
Urine
  Not indicated unless part of fever work-up
Cerebral Spinal Fluid
The likely hood of meningitis in a patient with out signs of meningitis ie nuchal rigidity, petechiae,coma is extremely low. [1, 2]Note the following is based on AAP Guidelines[3] Also note that the data that the guidelines are based on are 30 years old, and that in the face of an asymptomatic child is < 1/200 (very unlikely). In fact the children reported fever and seizure who had meningitis all had *Haemophilus influenzae*. [1]
While very low, probability of meningitis not zero
<12 months- should be strongly considered
12-18 months- should be considered
>18 months—without suspicion of intracranial infection, not warranted
Prior antibiotic treatment—should be strongly considered

EEG
Not indicated
Neuroimaging
Not indicated

Management
Febrile seizure is self-limiting
Acutely
Usually, no treatment necessary
If necessary,
Benzodiazepine-IV/IM/PR/IN
Anticonvulsants are not necessary
Prophylaxis[2, 4]
No antipyretic therapy has been shown to decrease recurrence of febrile seizure
Including scheduled Acetaminophen or Ibruprofen.
No anticonvulsant therapy has been shown to decrease recurrence of febrile seizure

Disposition
Admission
Very few febrile seizures require admission
If multiple febrile seizure
Suspect underlying disease
Home
Most will be discharged home
Must instruct parents on seizure first-aid
Must give parents anticipatory guidance and education

Discharge Instructions
Anticipatory Guidance
Febrile seizure likely to recur
Anticonvulsants are not indicated due
Self-limited nature of febrile seizure
Side effect profile
Risk of epilepsy very low
Use antipyretics but know they will not prevent febrile seizure
Seizure first-aid
Lay patient to floor on the patient’s side
Will help maintain airway
Allow for emesis to drain
Do not place anything in a seizing patient’s mouth
Finger
Utensil
Plastic/wood
Patients will not swallow their tongue
Seizure should last less than five minutes
Return if
  Multiple recurrence of seizure
  Change in behavior or mental status
  Does not return to baseline self after seizure
If a seizure lasts more than _____ minutes
  Progressively becomes worse
References


