

ALTE Apparent Life Threatening Event

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ALTE

- Defined by the National Institute of Health in 1986

“*Apparent Life-Threatening Event (ALTE)*--An episode that is frightening to the observer and that is characterized by some combination of **apnea** (central or occasionally obstructive), **color change** (usually cyanotic or pallid but occasionally erythematous or plethoric), **marked change in muscle tone** (usually marked limpness), **choking, or gagging**. In some cases, the observer fears that the infant has died. Previously used terminology such as "aborted crib death" or "near-miss SIDS" should be abandoned because it implies a possibly misleadingly close association between this type of spell and SIDS.”

The Four Components of ALTE

- Apnea
- Choking or gagging
- Color Change
- Change in muscle tone

The Numbers

- ALTE has an incidence of 0.05-1%.
- Accounts for 0.6-0.8% of ED visits for infants less than one year old.
- The risk that an ALTE will recur is 10-25%.
- The risk of death after ALTE is less than 1%.

GERD

Arrhythmia

Metabolic
Disease

Swallowing Difficulties

Ingestions: Medications, Alcohol

Chiari
Malformation

ALTE is a chief complaint rather
than a disease.

So, what causes ALTE?

Congenital Heart Disease

Upper and Lower Respiratory Tract
Infections

Child Abuse

Seizures

Respiratory pauses/Periodic
Breathing

Breath-holding spells

Initial Management on Presentation to the ED

- ABC's
- Vitals

History

- A detailed history from person present during the ALTE (What activity occurred right before the ALTE. Was the child eating? Sleeping?)
- What components of ALTE were noticed?
- How long did those symptoms last?
- What kinds of interventions did the caretaker do?
- What kinds of interventions did the EMT do?
- PMH/Birth Hx, Family Hx



Physical Exam



GERD

- Reflux may trigger laryngospasm causing the ALTE.
- Clues to GERD include:
 - Emesis in association with ALTE
 - ALTE occurred while patient was awake and supine
 - Obstructive Apnea



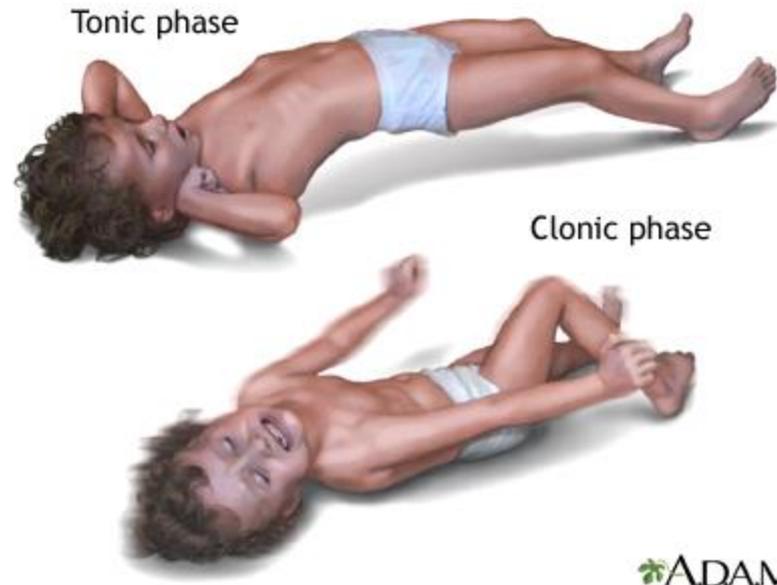
Upper and Lower Respiratory Tract Infections

- History of fever, URI symptoms, tachypnea
- ALTEs associated with:
 - Bordetella Pertussis
 - RSV Bronchiolitis
 - Pneumonia



Seizures

- Can be associated with fever
- Change in muscle tone, unresponsive, plethoric



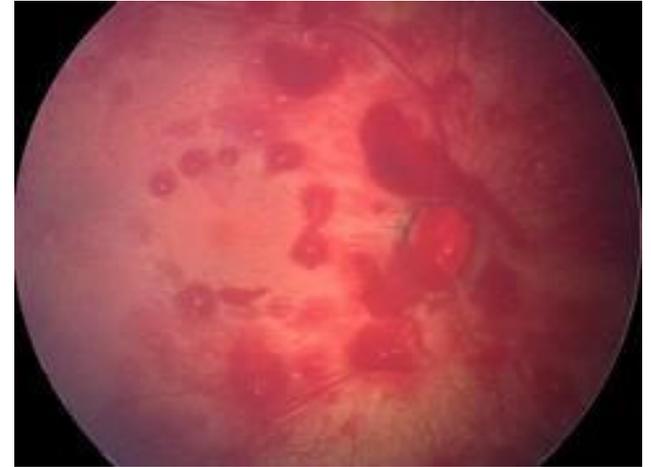
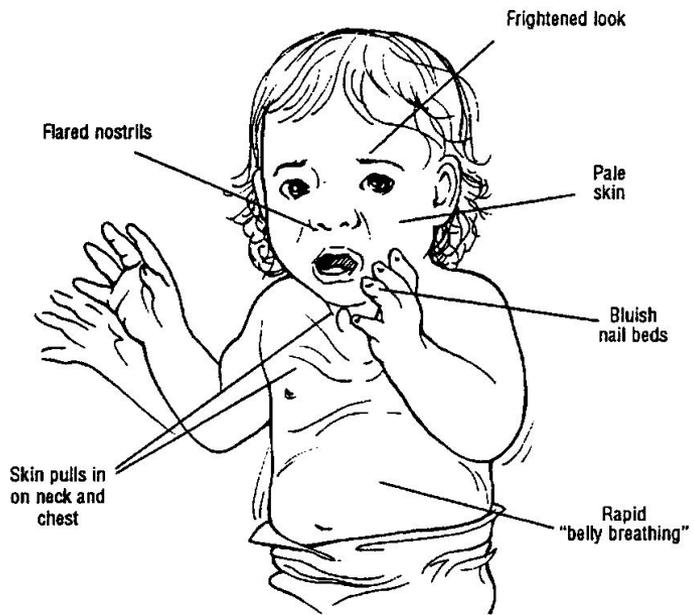
Labs and Imaging

- CBC
- CMP
- UA
- EKG
- CXR

- ABG
- Tox Screen
- Blood Cultures
- RSV and Pertussis serologies
- EEG



RED FLAGS



RED FLAGS

- Toxic child. Respiratory distress. Recurrent vomiting. Loss of Consciousness. Sustained Cyanosis. CPR required.
- Dysmorphic Features
- Evidence of child abuse



Child Abuse

- Needs special consideration.
- While less than 1% of ALTEs lead to death, one study showed a mortality rate of 9% in infants who were subjected to child abuse.



Child Abuse

- Munchausen syndrome by proxy
- Suffocation
- Head Trauma
- Ingestions
- Risk Factors:
 - ALTE requiring CPR
 - Recurrent ALTEs, especially within a 24-hour period
 - History of siblings with unexplained death, ALTE, or SIDS.



Disposition

- Varied
- Clear evidence of reflux, may choose to discharge home without further laboratory evaluation.
- Hospitalization in any child that is lethargic, in distress, with evidence of trauma, or suspicion of metabolic disease.
- Cardiorespiratory monitoring of children with AMS, respiratory distress, if required CPR.



Take-Home Points

- ALTE consists of some variation of apnea, choking/gagging, color change, and change in muscle tone.
- ALTEs are typically caused by laryngospasm associated with GERD, Respiratory Infections, and seizures
- VERY, VERY thorough history and physical required because of the broad differential.



Take-Home Points

- Take Note of RED FLAGS including:
 - Lethargy, respiratory distress, AMS. LOC. ALTE requiring CPR.
 - Dysmorphic features prompting metabolic work-up
 - Evidence of child abuse
 - Inconsistent HPI. ALTE requiring CPR. Recurrent ALTEs. Unexplained death of siblings. Ecchymoses, Trauma. Positive Tox screen.

References

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