

Brief resolved unexplained event (BRUE) (previously known as apparent life-threatening event [ALTE])

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Rationale

Life-threatening events involving infants are devastating to parents, caregivers and health care workers alike. Brief resolved unexplained events (BRUE) are characterized by a non-specific, resolved and episodic presentation, including any of the following: cyanosis or pallor; absent, decreased or irregular breathing; marked change in tone (hypertonia or hypotonia; and/or altered responsiveness). The etiology of these events is heterogeneous for a majority of infants; a specific cause may be identified following a focused history, physical examination and targeted investigations.

Causal Conditions

(list not exhaustive)

An underlying etiology may be found in over half of infants presenting with BRUE. For those infants where a cause cannot be identified through a focused clinical evaluation and/or initial investigations, stratification for risk/probability of an occult pathology should guide further investigations and monitoring interventions. Possible causes of BRUE include:

- Misinterpretation of normal physiology in an infant (e.g., transient choking with rapid feeding or with coughing during feeding, periodic breathing/ respiratory pauses of 5-15 seconds)
- Infectious disease (e.g., respiratory infection, sepsis, meningitis, encephalitis)
- Cardiopulmonary abnormalities (e.g., central or obstructive sleep apnea, arrhythmia)
- Neurologic disease (e.g., epilepsy)
- Child abuse (e.g., intentional suffocation, non-accidental head injury)
- Metabolic disease (e.g., inborn error of metabolism)
- Other (e.g., toxic ingestion, poisoning)

Key Objectives

Given the presentation of an infant with a BRUE, the candidate will evaluate possible risk factors and/or causes and initiate an appropriate management plan including investigations, interventions and follow-up. If an etiology is not identified through the initial evaluation, the candidate will determine whether the severity of the BRUE warrants more extensive investigation through the process of risk categorization.

The candidate will also counsel the infant's parents/caregivers and family.

Enabling Objectives

Given an infant presenting with a BRUE, the candidate will

- list and interpret critical clinical findings, including those derived from
 - a. a detailed history of the event;
 - b. an evaluation of maternal, infant and environmental risk factors;
 - c. the physical examination and/or direct observation;
- list and interpret critical investigations based upon the clinical features (e.g., viral studies, chest radiograph)
- construct an effective initial management plan, including
 - a. admitting the patient for observation;
 - b. counselling and supporting the parents' emotional needs, clarifying the difference between BRUE and sudden infant death syndrome (SIDS);
 - c. referring the parents if further investigations or interventions are required (e.g., high-risk BRUE, cardiopulmonary resuscitation training for recurrent events);
 - d. referring the patient for specialized care/investigations, if required (e.g., metabolic testing, cardiac evaluation).