



The Irritable Infant

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Saturday morning. A mom appears at your urgent care center, looking tired and frustrated. She says that she was up much of the night with her 3-month-old son, who was crying and fussy. The baby has not had any fever, she tells you, but has not been feeding as well as he normally does.

On first look, the infant seems to be well appearing, but you are concerned that he is quite young, and you want to be sure you are not missing something more serious.

Where would you start?

A common, yet challenging presenting complaint for any provider is the “irritable infant.” While the vast majority of infants presenting with this chief complaint are ultimately well or have only a mild illness or injury, it is important to consider and rule out more serious causes (Table 1). A careful, stepwise approach to the evaluation of the irritable infant often leads to a diagnosis—the key to developing an appropriate management plan.

Distinguishing Atypical Irritability

All infants are irritable at times, so defining exactly when irritability becomes concerning can be difficult.

The term *irritable infant* refers to a pediatric patient less than 1 year of age whom the caregiver deems to be excessively fussy, cranky, or crying. Frequently, the fussiness will have subsided by the time the child is seen by the clinician.

The vast majority of infants who are seen for irritability are stable. Nevertheless, as with any potentially ill patient, initial attention is given to evaluation and stabilization of the airway, breathing, and circulation. Once this is accomplished,

Table 1. Serious Causes of Infant Irritability

Acute surgical abdomen
Congestive heart failure
Corneal abrasion
Electrolyte disturbance
Foreign body
Hair tourniquet
Incarcerated hernia
Intussusception
Physical abuse
Serious infectious illness
Supraventricular tachycardia
Testicular torsion

attention can be directed toward a thorough history and physical examination.

In a study by Poole,¹ of 56 infants without fever presenting with excessive crying, history contributed to the diagnosis in 11 patients (20%).

Physical examination revealed the final diagnosis in 23 patients (41%), while contributing to the diagnosis in another seven patients (13%).

Laboratory studies, electrocardiography, or radiologic studies were required to establish the final diagnosis in 11 patients (20%).

Notably, final diagnoses were established in 22 patients (39%) through follow-up alone, emphasizing the importance of ensuring appropriate care after discharge.

The author notes that in his population, the presence of evidence of significant illness during evaluation, or persistent crying beyond the initial assessment, was predictive of serious illness with a sensitivity of 100%, specificity of 77%, and positive predictive value of 87%. In addition, no infant with a normal evaluation and lack of persistent crying after



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the assessment was found to have serious illness.

A thorough history can aid in the differentiation of infants at risk for serious illness from those in whom underlying serious disease is unlikely. It is important to ask for a detailed description of the infant’s birth history, significant past medical illnesses or injuries, feeding history, medications, history of known trauma, presence of vomiting and/or diarrhea, and immunization history.

Physical Examination

A complete and thorough physical examination is essential. This exam should include completely undressing the infant and examining all parts of the body.

Skin findings can include uncomfortable rashes such as eczema or varicella, minor trauma, redness or swelling from an immunization reaction, or subtle findings of abuse.

Vital signs are important to note. Fever can be associated with a variety of infections, including viral illnesses, otitis media, urinary tract infection, or meningitis. Tachycardia might be indicative of blood loss from trauma, dehydration, stress reaction, congestive heart failure, or if >200, supraventricular tachycardia. Tachypnea can be associated with a variety of respiratory illnesses, hypoxia, or heart failure.

Potential findings in the ears, eyes, nose, and mouth include various foreign bodies, otitis media, infectious processes, and evidence of teething. Eyes should be examined with fluorescein to look for a corneal abrasion.

Respiratory findings, such as wheeze or rales, suggest a variety of respiratory-related illnesses, including asthma, bronchiolitis, pneumonia, foreign body, and congestive heart failure. The latter is further supported by auscultation of a significant murmur.

Abdominal findings, such as significant tenderness or guarding, are suggestive of potential surgical concerns usually requiring timely intervention. These include incarcerated hernia, volvulus, intussusception, and appendicitis. Gas-

troenteritis can present with irritability, but should be accompanied by other signs related to the gastrointestinal system (vomiting, diarrhea).

Findings on genitourinary examination may suggest testicular torsion. Hair tourniquet of a digit or penis is an uncommon cause of irritability which can only be discovered on careful examination.

Abnormal neurologic findings, including a markedly abnormal cry or specific neurologic signs, are suggestive of meningitis.

Lastly, the extremities should be examined for abnormal movement or tenderness, suggestive of trauma or an infectious process, such as osteomyelitis or septic arthritis.

The history and physical examination, taken together, often uncover the etiology of infant irritability. However, the clinician will still frequently be faced with a patient who has a negative evaluation.

The good news is that the majority of these infants will prove to be quite consolable by feeding or holding during or shortly after their evaluation. This group of infants is unlikely to have significant underlying illness, and is more likely to be exhibiting behavior related to the many non-urgent causes of irritability (**Table 2**).

Colic

For the infant less than 3- to 4-months-old, a common diagnosis is either normal crying or infantile colic.

While a detailed discussion of colic is beyond the scope of this article, it is important to remember the basic definition of colic: unexplained paroxysms of irritability, fussing, or crying lasting for a total of more than three hours a day on more than three days per week. These “attacks” typically occur in the evenings, starting between 3-days and 3-weeks-of-age and subsiding by 3- to 4-months-of-age.

If the patient you are examining does not fall within these parameters, it is unlikely to be colic. Specifically, one needs to use caution in giving the diagnosis of colic in a young infant presenting with new-onset irritability.

Table 2. Common Non-urgent Causes of Irritability

- Otitis media
- Minor trauma
- Viral syndrome with or without fever
- Stomatitis
- Immunization reactions
- Minor skin rashes
- Teething
- Insect bites

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Other Possibilities

For other infants, it is important to discuss the various possibilities with the caregivers. Issues concerning feeding (over- or underfeeding), teething, and parental stress related to infant care are all important to explore. Caregivers should be questioned about the options for increased support, such as family or friends, during this stressful period. Most importantly, since a definitive diagnosis has not been established, infants in this group should receive follow-up within 24 to 48 hours (or sooner, if indicated) to ensure that a more serious illness was not missed.

Occasionally, an infant will have a negative evaluation, yet will continue to be inconsolable during and after the evaluation. Although infants in this group may prove to have a benign underlying cause, a substantial number of infants in this category will ultimately prove to have a significant illness or injury.

In the truly inconsolable infant with a history of persistent irritability, it is prudent to consider some ancillary testing. At a minimum, electrolytes, CBC, urinalysis and urine culture, and lumbar puncture with evaluation/culture of the cerebrospinal fluid, should be considered.

Urinary tract infection has been found to be a significant cause of irritability in infants with a non-contributory history and physical examination.

Other tests to consider include skeletal survey and head CT scan (for trauma or abuse).

An infant with a negative laboratory and radiographic work-up who becomes consolable may be sent home with reliable parents and close follow-up, generally within 24 hours. Any infant who remains inconsolable is best admitted to the hospital until a diagnosis can be established.

Conclusion

Although at times a simple diagnosis is easily established, the infant presenting with excessive irritability often presents a significant challenge. Establishment of the likely diagnosis, combined with exclusion of significant illness or injury, is a prerequisite to the formulation of an appropriate management plan.

Through a logical and stepwise approach, the urgent care clinician can usually establish the etiology and develop a treatment plan for infant irritability. When unable to determine the underlying cause for a particular infant, close follow-up should result in optimal patient care. ■

Reference

1. Poole S. The infant with acute, unexplained, excessive crying. *Pediatrics*. 1991;88:450-455.



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