Irritable infant

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Irritable Infant

- "**irritable infant**" implied an infant needed to be evaluated for a serious or life-threatening condition [e.g., meningitis].

- **Crying is normal part of neurobehavioral development.**

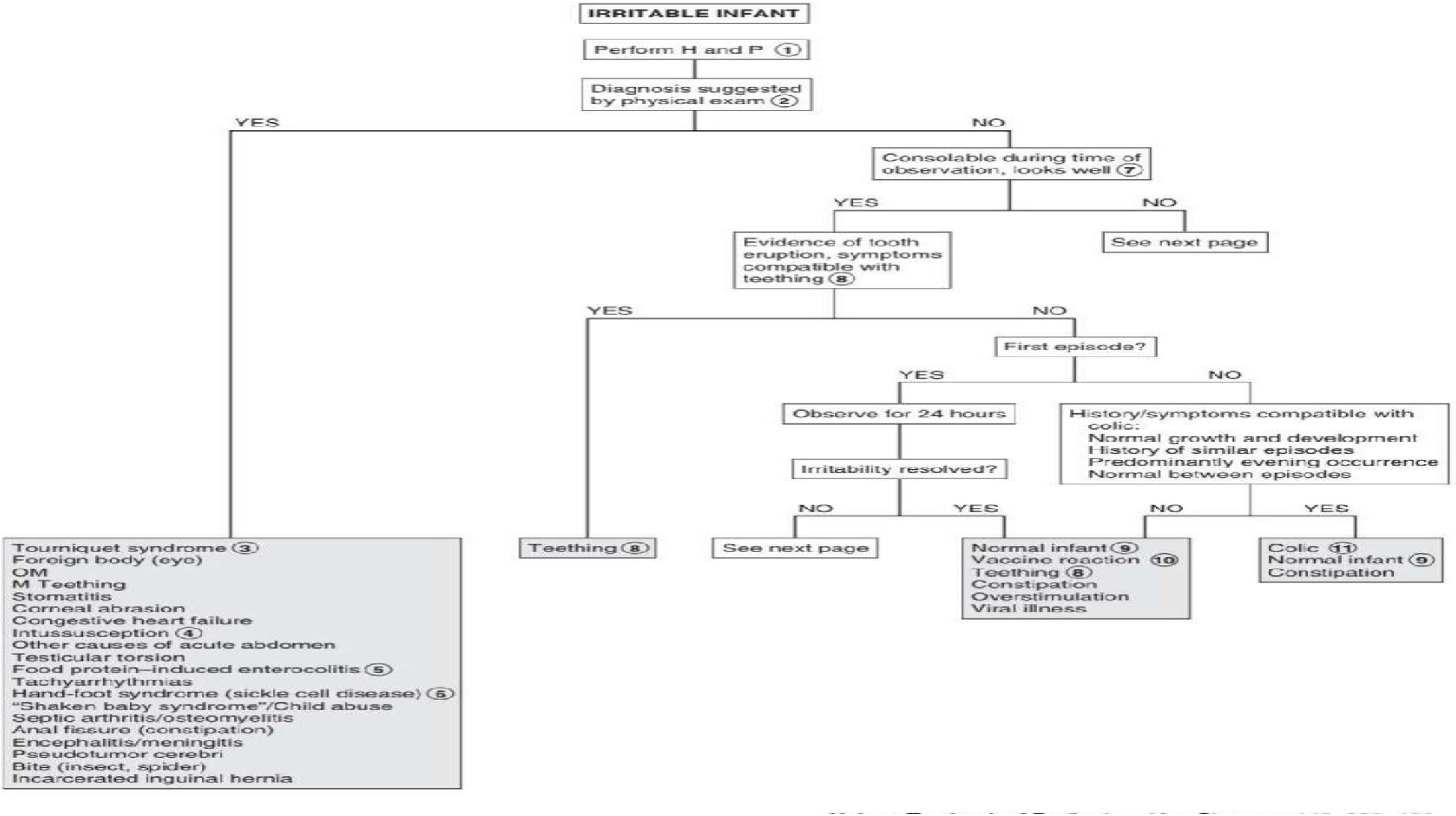
- Parents are frequently concerned by what they consider to be excessive crying or fussiness in an infant without an obvious apparent reason.

- Most children presenting with this history will be normal or have a non-serious medical condition, but a very small proportion (0%) will **have a serious medical disorder.**

- The challenge to the practitioner is to identify those infants who are affected by a serious organic or life-threatening disorder.

Irritable Infant

- To understand crying ,one should pay attention to characteristics such as time , duration ,frequency ,intensity and variability of crying .
- Most babies cry very little during the first ٢ weeks of life .
- An infant's crying gradually **increases** to an average of ١١٧ to ١٣٣ minutes per day **until ٦ weeks of age(١٠ times/٢٤hr= ٢/٥ -٣ hr/day)** ,then **decreases** to an average of ٦٨ minutes per day at **١٠ to ١٢ weeks of age.**
- Circadian changes in crying are normal and crying happens **mostly in the late afternoon and evening.(٣-١١ PM)**
- **Although it can be very different from one baby to another.**


IRRITABLE INFANT
Perform H and P (1)
Diagnosis suggested by physical exam (2)
YES
NO
Consolable during time of observation, looks well (7)
YES
NO
Evidence of tooth eruption, symptoms compatible with teething (8)
See next page
YES
NO
First episode?
YES
NO
Observe for 24 hours
History/symptoms compatible with colic:
Normal growth and development
History of similar episodes
Predominantly evening occurrence
Normal between episodes
Irritability resolved?
NO
YES
NO
YES
Tourniquet syndrome (3)
Foreign body (eye)
OM
M Teething
Stomatitis
Corneal abrasion
Congestive heart failure
Intussusception (4)
Other causes of acute abdomen
Testicular torsion
Food protein–induced enterocolitis (5)
Tachyarrhythmias
Hand-foot syndrome (sickle cell disease) (6)
"Shaken baby syndrome"/Child abuse
Septic arthritis/osteomyelitis
Anal fissure (constipation)
Encephalitis/meningitis
Pseudotumor cerebri
Bite (insect, spider)
Incarcerated inguinal hernia
Teething (8)
See next page
Normal infant (9)
Vaccine reaction (10)
Teething (8)
Constipation
Overstimulation
Viral illness
Colic (11)
Normal infant (9)
Constipation

Irritable Infant

- The initial evaluation of an irritable infant starts with a careful history and physical examination with the intent of ruling out potentially emergent conditions and stabilizing the patient if indicated.

- The history should include questions about the characteristics of the cry (the time of day, duration, whether it is associated with feeds) and any changes to the infant's typical crying pattern.

- The History should include the fever history and body tempreture, birth history (including newborn screen results), a past medical history, nonaccidental history of trauma, review of symptoms, plus a social, familial,developmental, and feeding history, GERD, family management(calm down baby , stress managing).

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Irritable Infant

- In addition to questions about recent symptoms, medical providers should ask about any remote history of suspicious bruising or other injury.

- Though conditions such as constipation, gastroenteritis, and gastroesophageal reflux are most often benign, poor growth or developmental delay may indicate more severe disease or that another medical condition is causing the symptoms.

Irritable Infant

- **The physical examination should include a complete examination of all body systems with the clothing removed.**

➢ **A thorough unclothed Physical Examination is essential; be particularly vigilant with the otolaryngologic, ophthalmologic, cutaneous, and musculoskeletal exams. (Include palpation of long bones and careful examination of digits in the musculoskeletal exam,).**

➢ **Growth parameters should be noted.(Increasing head circumference percentile may point to increased intracranial pressure in infants with otherwise vague symptoms.)**

➢ **Careful examination of digits is essential; fingers, toes, penis, testis and even the uvula have been reported as affected sites. An area of well-demarcated discoloration or swelling on a distal appendage is suspicious.Fractures , bruises,etc.**

➢ **Abdominal exam : Abd mass, hepatosplenomegaly, Acute abdomen sign: volvulus, Appendicitis, tumors, etc.**

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- **In very young infants, the neurologic exam is a poor screening tool to detect subtle neuropathology, and intracranial injury may not be accompanied by external evidence of trauma.**

- **A history of previous neurologic symptoms, such as episodes of unexplained seizures, apnea, altered mental status, developmental delay, or periods of extreme lethargy, may suggest an occult head injury or other non-traumatic neuropathology.**

- **Consider a skeletal survey and/or head imaging in infants with this history.**

Irritable Infant

- Judgment must be used in determining whether certain subtle or minor physical findings (abrasions, insect bites, stomatitis) are causative.

- In cases of severe or persistent irritability, follow-up and possibly additional evaluation may be necessary.

- Patients may need to be monitored in the hospital until a diagnosis can be established.

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- ✓**An infant who can be consoled during the initial period of observation and has normal results on physical examination is not likely to have a serious illness.**

- ✓**Follow-up should be recommended within ٢٤ hours for any infant being evaluated for excessive fussiness or crying, even if consolable or a diagnosis seems evident. sometimes an alternative or definitive diagnosis may become evident within ١ or ٢ days of the initial presentation.**

- ✓**Parents should be counseled carefully about worrisome signs and symptoms and reasons to follow up sooner**.

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- **Labs or imaging based on:**

- ✓ **positive elements of the history and physical examination maybe indicated.**

- ✓ **When the history and physical examination do not suggest a diagnosis,** additional laboratory or radiographic evaluation may be needed.

- ✓ **If the infant is ill-appearing, has evidence of poor growth or developmental delay, or is persistently inconsolable beyond the initial assessment, laboratory and radiographic studies should be done**

Irritable Infant

- ✓**Some tests to consider include:**
- ✓CBC
- ✓ESR/CRP
- ✓LP
- ✓B/C
- ✓VBG and complete metabolic panel
- ✓amylase, and lipase
- ✓U/A and U/C
- ✓S/E and S/C (OB+ : Food –induced allergy)
- ✓**ECG: arrythmia(SVT, VT,LQT,…)**

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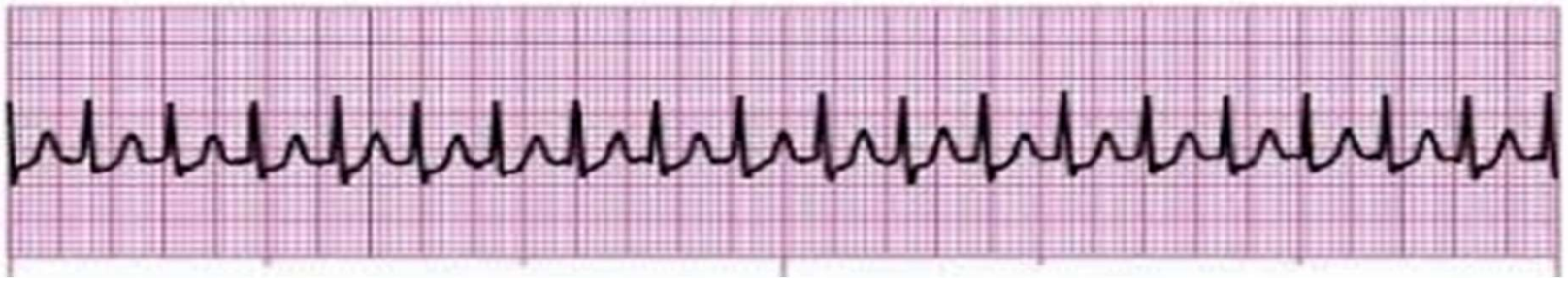
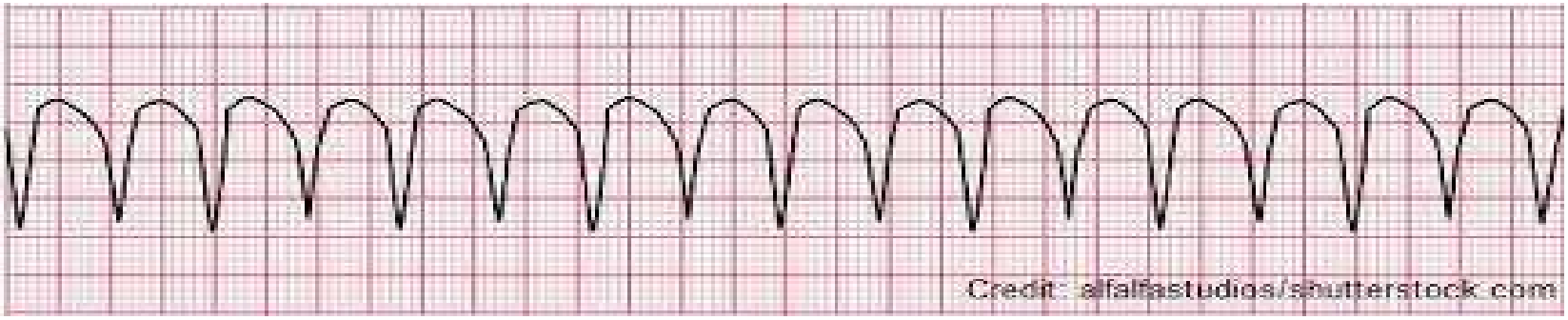
SINUS TACHYCARDIA:

SVT:



VT:



Tourniquet syndrome (3)
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Testicular torsion ★
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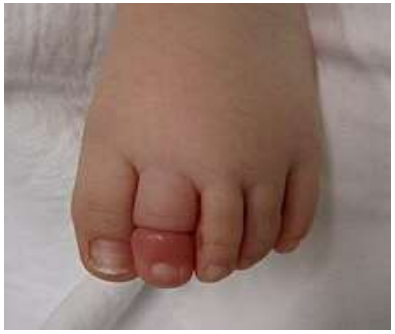

➢**Tourniquet syndrome:**

✓**Age < ۲ month is common**

✓ refers to a thin filamentous material (hair, thread) that has wrapped around an appendage and is causing **vascular compromise.**

✓ **Careful examination of digits is essential**; fingers, toes, penis, uvula , labia , tongue , umbilical cord , nipple, ear lobe ,etc have been reported as affected sites.

✓An area of **well-demarcated discoloration or swelling or hematoma** on a distal appendage is suspicious; be aware that accompanying edema and duskiness can obscure the **strangulating item**, making diagnosis difficult.

✓The possibility of **child abuse** should always be considered.

✓**Rapid diagnosis is necessary to minimize morbidity.**

✓**Surgical intervention** is frequently needed, especially for cases of **penile strangulation.**

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- ✓ A urinary tract infection (UTI) may also present with vague symptoms of irritability in infants. This may be one of the few conditions in which laboratory or imaging leads to a diagnosis in the absence of a suggestive clinical picture.

- ✓ Some suggest that a urinalysis and culture should be a standard screening test in infants who present with crying.

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- **Intussusception typically presents with:**

✓ **A sudden onset of paroxysmal colicky episodes of pain.**

✓**Vomiting is common**

✓**Infants and toddlers are initially normal between episodes and gradually become weaker and more lethargic.**

✓**Most (≈۶•%) will pass stool with gross blood and mucous "currant jelly"**

✓**(but this may not occur for up to ١ or ٢ days after symptom onset.)**

✓ **Abdominal US followed by enema (air, saline, water-soluble contrast) is the preferred diagnostic and therapeutic approach.**

Irritable Infant

- **TEETHING:**

✓ **Appropriate age (most infants start teething around age 6 months),**

✓ **evidence of erupting teeth**

✓ **increased salivation**

✓ **relief with chewing on a cold object**

Irritable Infant

✓**Vaccine**

- **Mild fussiness** is associated with several of the standard childhood vaccines.
- **local soreness** at the injection site is generally considered the cause.
- Significant irritability related to vaccines is **unusual**; other etiologies should be considered.

Irritable Infant

➢Colic: RULES OF ٣

- ✓common definition of colic is recurrent episodes of excessive crying or fussiness at predictable times of the day, usually the evening:
- ✓lasting more than ٣ hours
- ✓occurring on more than ٣ days per week in otherwise normal infants.
- ✓ Onset is usually around ٣ weeks of age
- ✓the condition typically resolves by ٣ to ٤ months of age.
- ✓It does not depend on gender , race , socioeconomic differnces.
- ✓Parental education and reassurance are necessary and important.(post partum depression/child abuse(shaken baby syndrome) , etc)

Irritable Infant

✓Colic:

✓تکنیک های آرام کردن شیرخوار:

✓قنداق کردن

✓نگه داشتن شیرخوار به یک سمت یا روی شکم

✓صداها یا آوازهای آرام بخش(هیس کردن،آواز خواندن)

✓ حرکات ریتمیک آهسته یا نوسانی(سواری در ماشین، جنباندن)

✓مکیدن گول زنک

✓آموزش نشانه های گرسنگی

✓اجتناب از مصرف بیش از حد کافیین

✓عدم استفاده از الکل توسط مادر

✓احتیاط درمورد تغذیه بیش از حد

درمان های دارویی :سایمتیکون ،فنوباربیتال ، دیفین هیدرامین ، دی سیکلومین و ... توصیه نمیشود.

برخی مطالعات نشان داده اند که پرو و پره بیوتیک ها و ماساژ کودک مفید هستند.

در مورد تاثیر طب سوزنی و گیاهی مثل چای سبز، شربت گریپ، رازیانه، محلول شکر اطلاعات ضعیف میباشد.

Irritable Infant

- **Abstinence syndromes:**
  - ✓ may occur in **infants born** to substance-abusing mothers
  - ✓ **withdrawal symptoms** include **irritability, vomiting, diarrhea, hypertonicity, poor feeding, and sleep problems.**
  - ✓ **Withdrawal usually occurs in the first week of life but may be delayed up to ٢ to ٣ weeks if the mother was using methadone.**

- **Beyond the neonatal period, breastfeeding infants may experience fussiness and irritability due to transfer of maternal drugs (decongestants, caffeine, nicotine, cocaine).**

- **Environmental toxins (carbon monoxide) may rarely be a cause of nonspecific infant fussiness.**

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- ✓A **head CT** will diagnose **intracranial hemorrhage (suspicious of child abuse)** or **other causes of increased ICP**.
- ✓**Meningitis** needs to be considered in cases of **severe or inconsolable irritability;** some infants will present afebrile.
- ✓A head CT should be obtained before performing an LP in these infants to rule out increased ICP.

Irritable Infant

- ✓**Acidosis**, **hypernatremia**, **hypocalcemia**, and **hypoglycemia** are rare but serious causes of irritability in infants.

- ✓**Inborn errors of metabolism** should be considered when there is associated **vomiting, neurologic symptoms, failure to thrive, or a positive family history, including unexplained neonatal deaths.**


Thank you for your
attention!