Nutritional Neglect: When is Failure to Thrive Neglect?

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Child Neglect

- Generally defined as parental or caregiver acts of omission
- Child centered definition:
  - All circumstances where the basic needs of a child are not adequately met regardless of the contributor(s)
- Three types: Physical, Emotional, Educational
Physical Neglect

- At what threshold is a condition endangering or harmful?
  - Actual or potential harm
  - Severity
    - Approximately ½ of child abuse fatalities are due to neglect
  - Frequency/Chronicity/Situational

Physical Neglect Referrals to CPS

- Most common referrals:
  - Medical – refusal, delay, noncompliance
  - Abandonment
  - Expulsion of child from home
  - Child being left with others for long periods
  - Inadequate supervision
  - Other neglect – nutrition, clothing, hygiene

Characteristics of Neglect Cases

- Chronic medical conditions - 87%
- Caregiver factors related to the noncompliance
  - 46% - Unwilling to follow advice
  - 26% - Unable to provide necessary care
- Systemic factors related to noncompliance must be addressed
  - 100% - Communication difficulties
  - 80% - Resource issues
- Interventions
  - 50% - CPS report made
  - 30% - Directly observed therapy
  - 20% - Medical contracts

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FTT Definition
- Children whose growth deviates significantly from the norms for age and gender
- Defined in absolute terms
  - Below 3rd or 5th percentiles on >1 occasion
- Defined in relative terms
  - Ht or wt that decreases 2 major percentiles

Failure to Thrive
- Up to 10% of children seen in primary care settings may show signs of failure to thrive due to:
  - Inadequate energy intake in the diet
  - Constitutional or genetic small size
  - Underlying disease process (less common)

Approach Failure to Thrive as a Symptom
- Potential symptom of a wide range of diseases
- Traditional categorizations are not appropriate:
  - Organic failure to thrive – medical illness
  - Non-organic failure to thrive – psychological neglect and maternal deprivation
Malnutrition can be primary or secondary

Medical
Social
FTT
Nutritional
Developmental

Failure to Thrive

- 23-year-old, G2P1SAb1
- Term infant - BW 3.6 kg
- Breast fed 2 weeks; mother felt she didn't have enough milk
- Formula fed since then
- Some spit-up, not daily
- HC normal
- Admitted at 5 months

What orders do you input at admission?

How do you address the potential contributing factors?
Important Considerations

- What is the current weight? Has the child been gaining or losing?
- How much weight gain is expected at this age?
- What and how is the child being fed?
- What is the recommended nutrition plan?
- Where is child being seen for weight checks/medical follow up?
- What is the parent/caregiver perception of the issues?
- Risks of on-going poor growth: developmental delay, poor brain growth, electrolyte imbalance, nutritional deficiency, impaired immune function, permanent cognitive deficits, death

Risk Factors

- Poverty
- Parental Resources
  - Early developmental experiences - ACEs
  - Education and child care experience and knowledge
  - Behavior and mental health
- Child Characteristics
  - Temperament
  - Physical health and development
- Social
  - Relationships - parental, network
  - Resources - community, employment

Poverty

- Greatest single risk factor
- U.S. families need an income of at least 185% of the poverty level to meet minimum nutritional needs
- Homes that are inadequate for food storage and preparation
- WIC reaches only 81% of those eligible
Parental Personal Resources

- Parents of children who develop FTT are more likely to:
  - Have had problematic childhoods
  - Be classified as resource insecure
  - Have unresolved mourning over a loss
  - Have been physically or sexually abused as children or adults
  - Have mood disorders/adjustment problems affecting the quality of parent-child interactions

Child Characteristics

- Physical and temperamental characteristics may contribute to FTT
  - Listless infant behavior
  - Prematurity and low birth weight
  - Early childhood illnesses
  - Delayed or dysfunctional oral-motor development
  - Inconsistent social responsiveness

Family and Social Perspectives

- Lower economic levels
- Higher family stress
- Poor quality and organization of family relationships
- Less reliable extended family for child-rearing help
- Greater social isolation
Medical Issues to Consider in Evaluation of FTT

- Family history of growth retarding illness
  - Cystic fibrosis, celiac disease, short stature
  - Were parents malnourished as children?
- Family mental health history
  - Mental illness or eating disorders, substance use, developmental delay
- Perinatal factors – IUGR, SGA, bleeding, infection
- Postnatal medical issues

Perinatal Factors to Consider

- Conception planned or unplanned
- Mother’s nutritional status
- Maternal health habits
  - Smoking, alcohol, illicit or prescribed drugs
- Neonatal status
  - Gestational age, size parameters
  - Hospitalization and complications
  - Early feeding difficulties
- Maternal and child separation

Prematurity

- Preterm growth may be inappropriately characterized as FTT
- Growth parameters must be corrected for gestational age:
  - Head circumference will correct by 18 months
  - Weight will correct by 24 months
  - Height will correct by 40 months
- VLBW infants may remain small for more than 3 years
  - Increased likelihood of length & weight less than 5%tile
**Catch-Up Growth in Premature Child**

- Asymmetric IUGR
  - Best prognosis for postnatal growth
  - At risk for FTT if developmental/confounding factors
  - Catch up in first 9 months with enhanced nutrition
- Symmetric IUGR
  - Relatively poorer prognosis for normal growth/development
  - Consider genetic abnormalities or intrauterine infections

**Feeding History**

- Type – breast milk (at breast or pumped), formula, multiple changes?
- How is formula mixed?
- How much does the baby take in 24 hours?
- What time, how and by whom is the child fed?
- Is family receiving WIC supplements?
- Have solid foods or other liquids been introduced?
- Does the baby wake up on his/her own?
- Does the baby act hungry?
Review of Systems
• Diarrhea and/or vomiting
• Trouble with latch or swallowing
• Cough, choking, difficulty breathing, turning blue
• Recurring pneumonia, otitis, sinusitis
• Thrush, recurring monilial rash
• Loss of previously acquired milestones
• Abnormal movements

Physical Examination
• Four goals:
  • Identification of chronic illness
  • Recognition of potentially growth-retarding syndromes
  • Identification of trauma
  • Documentation of the effects of malnutrition

Exam Findings
• General appearance - activity, posture, affect
• Skin - hygiene, rashes, trauma (TEN-4 FACES-P)
• Head - occipital alopecia, fontanelle, facial dysmorphisms
• Abdomen - hepatomegaly, masses
• Neurologic - reflexes, tone, suck effectiveness, voluntary movement, developmental skills
Common Exam Features

- Decreased subcutaneous fat
- Skin lesions heal slowly
- Lack of social interactions
- Disproportionate head size; HC usually preserved

What did you order on your patient?

- Medical Evaluation
  - Diagnostic evaluation:
    - Feed the child
      - Observation of caregiver feeding is essential
      - May need to have nursing feed the baby (or better yet, do it yourself)
      - On-demand “normal” or “usual” formula
    - Skeletal survey, urine for illicit drugs
### Medical Evaluation
- Depending on history and age of child consider:
  - CBC, Comprehensive metabolic profile
  - UA, Urine culture
  - TB, HIV, Congenital infections
  - Inborn error of metabolism; genetic consult
  - Albumin, prealbumin

### Medical Management Considerations
- Assessment of lead levels in older infants/toddlers
- Iron deficiency anemia
- Alkaline phosphatase:
  - Decreased = Zinc deficiency
  - Increased = Rickets
- Cystic fibrosis
- Height decreased → bone age
  - Constitutional: BA = CA and > Height age
  - Endo/Chronic malnutrition: BA = Height age and <CA

### Previously undiagnosed illnesses leading to FTT
- Most are GI related:
  - Gluten sensitive enteropathy
  - Food allergies
  - Gastroesophageal reflux
- Additional considerations:
  - Cystic fibrosis
  - Urinary tract infections
  - Renal tubular acidosis
  - Subtle neurologic dysfunction of fine and oral motor skills
When to Suspect an Inborn Error of Metabolism/Genetic Disorder
- History of acute, severe signs/symptoms
  - Recurrent hypoglycemia, ketoacidosis
  - Recurrent vomiting, lethargy, dehydration
  - Liver dysfunction, elevated enzymes
  - Developmental delay, hypotonia, seizures
  - Cardiomyopathy, myopathy
  - Hearing/visual impairment
  - Dysmorphic or coarse facial features
  - Pancytopenia, organomegaly

Chronic illness or Primary Malnutrition?
- Hospitalization is not necessarily the “diagnostic” test to rule out chronic illness
- Chronically ill children will also gain weight in the hospital
  - Complex technical, psychosocial & nutritional needs
  - Multiple shifts of trained medical personnel
  - Calorie-dense feedings are often used in the hospital

Nutritional Management
- Daily caloric needs for catch-up growth:
  - 120 kcal/kg x median weight for current height
  - Most will take 1.5-2 times the expected intake
  - Nutritional needs exceed the age-specific RDAs
- Expected normal growth rates:
  - First 3 months 26-30 grams/day
  - 3-9 months 12-18 grams/day
  - > 9 months 7-9 grams/day
**Additional Management Considerations**
- Home visit
- Address maternal depression
- Address the strengths and deficits in the parent-child relationship and the home
- Close monitoring of weight; do not rush hospital d/c
- Documentation of functional impact of FTT:
  - Developmental assessment at baseline
  - Early childhood intervention services

**Parental Understanding and Acceptance**
- Parents often have difficulty “buying” the concept of FTT
  - They focus on physical or biologic explanations, e.g., unspecified family history, “meant to be small,” colic
  - Deny possibility of primary lack of calories
  - Professional perceptions include underfeeding by caregivers and interactional problems between parent and child
- How do we resolve the disconnect?

**Parental Understanding and Moving Forward**
- Collaborate with parents in a treatment plan
  - Medical contract or safety plan
- Assure adequate resources
- Preserve caregiver self-esteem and partnership in decision-making
- Make the child visible in the community
Child Protective Services Involvement

- A critical strategy is to obtain multidisciplinary services which often are best coordinated through DCF or a CAC:
  - Pediatric dietician, clinic social worker, possible collaboration with a specialty clinic
  - Home visits
  - Protective day care
  - Transportation for visits
  - Family preservation can assist without stigma of “CPS” involvement – can provide therapy, social work support, community connections and attend medical visits

Child Protective Services Involvement

- Presence of profound psychosocial issues or significant parental cognitive impairment
- Continued noncompliance ever after barriers are addressed
- Child is being harmed or at risk of imminent harm/death due to the malnutrition or additional neglect
- Inflicted injury, sexual or emotional abuse

Multidisciplinary Team Approach

- CPS needs written reports and a diagnosis – is this medical neglect?
- Team meetings are ideal – all agencies hear the same information
- All partners, including caregivers, need to agree to a medical contract/safety plan and sign a written document
- Communication is critical to a good outcome; confirm in the plan that DCF will not close a case without medical input
References