Anorexia Nervosa

Background

1. Definition: DSM-IV-TR Criteria
    - Refusal to maintain body weight at or above a minimally normal weight for age and height
    - Intense fear of gaining weight or becoming fat, even though underweight
    - Disturbance in the way in which ones body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight
    - In post menarcheal females, amenorrhea, i.e., the absence of at least 3 consecutive menstrual cycles
2. General information
    - **National Eating Disorders Association**
      603 Stewart St., Suite 803
      Seattle, WA 98101
      Phone: 1-800-931-2237
      E-mail: info@NationalEatingDisorders.org
      Web Address: http://www.nationaleatingdisorders.org

Pathophysiology

1. Pathology
    - Combination of factors
        - Genetics
        - Sociocultural
        - Neurochemical
2. Incidence and prevalence
    - Peak age of onset is between 15-19 years of age
    - Gender ratio is 9:1 female to male
    - Increased rates in Native Americans than Caucasians
    - Lowest rates among Asians
    - Increase in incidence
        - Young children
        - Adults >40 yo
    - Highest incidence
        - Industrialized countries
        - Higher socio-economic groups
3. Risk factors
    - First degree female relative with an eating disorder
    - History of sexual abuse
    - Early childhood eating and digestive problems
    - Individuals with weight concerns, negative body image and dieting
    - Preexisting psychiatric conditions
        - Dependency
        - Isolation
        - Developmental immaturity
4. Morbidity/ mortality
    - Mortality: 12x general population
    - 5% die - amongst the highest in mental disorders

- 50-70% recover
- 20% improve
- 10-20% develop chronic anorexia

5. Complications
   - Refeeding syndrome
     - Severe hypophosphatemia

Diagnosis

1. History
   - Weight loss >15% below IBW or failure to gain weight during puberty to obtain weight >15% below IBW
   - Assessment
     - Monitor growth and weight changes
       - Fluctuation of weight common
     - Menstrual history
     - Exercise history
     - Arrest of pubertal development?
     - Increased number of fractures?
     - Evaluate for:
       - Suicide
       - Depression
       - Obsessive compulsive traits
   - Behavioral changes
     - Restriction of intake leading to weight loss
     - Increase in energy expenditure - exercise purge
     - Fear of weight gain, body image disturbance
     - Severe anxiety / guilt associated with eating / food
     - Decreased eating in public
     - Reluctant to be weighed
     - Acts withdrawn
     - Missing school and work
     - Substance abuse
   - Specifiy type
     - Restricting type:
       - During the current episode of anorexia nervosa, the person has not regularly engaged in binge-eating or purging behavior
     - Binge-eating/purging type:
       - During the current episode of anorexia nervosa, the person has regularly engaged in binge-eating or purging behavior
2. Physical examination
   - Weight measured in gown after voiding
   - Calculate BMI
     - <17.5 - in anorexic range
     - <18.5 - considered underweight
   - General/vital signs
     - Bradycardia, hypotension, orthostasis, hypothermia, dehydration
   - Skin
     - Dry, lanugo, carotenemia

- Cardiac
  - Bradycardia, hypotension, murmur (incr prevalence of MVP), arrhythmias
- Abdominal
  - Bloating, constipation, GERD
- Extremities
  - Acrocyanosis, pitting edema, abrasions on the hands
- Reproductive
  - Irregular menses, amenorrhea, oligemenorrhea
- Electrolyte disturbances
  - Secondary to vomiting
  - Use of laxatives or diuretics
  - Excessive water intake
- Assess pubertal stage and monitor for transitions if premenarcheal - may be delayed

3. Diagnostic testing
   - Laboratory evaluation
     - CBC w/diff, CMP, TSH
       - Leukopenia, hypoglycemia, hypercholesterolemia, euthyroid sick syndrome, abnormal LFTs
     - Electrolyte disturbances
   - Diagnostic imaging
     - DEXA scan - in individuals w/prolonged amenorrhea (6-12 months)
   - Other studies
     - ECG - bradycardia, prolonged QT
4. DSM-IV Criteria for Mental Disorders
   - Anorexia nervosa
     - <85% ideal body weight or BMI of <17.5
     - Intense fear of weight gain
     - Perception of body
       - Unrealistic
       - "Feels fat"
     - Denial of hunger
     - Amenorrhea
       - Absence of at least 3 menstrual cycles in postmenarcheal females
     - High academic success and over-achievers
     - Intense exercise
   - Bulimia
     - Binge eating 2x/week for 3 months
     - Very rapidly eating
     - Unable to control eating and stop
     - Purging (vomiting, use of ipecac, diuretics, laxatives, enemas, caffeine, and other uppers)
     - Increased exercise to counteract binges

Differential Diagnoses

1. Gastrointestinal
   - IBS, Celiac dz, malabsorption

2. Endocrine
    - Hyperthyroidism
3. Mental health
    - Depression, OCD
4. Other chronic disease causing weight loss/anorexia

Treatment

1. Acute Tx
    - Correct electrolyte abnormalities (hypokalemia)
    - Manage dehydration
2. Long-term care
    - Multidisciplinary approach:
        - Primary care physician
            - Coordinates care
            - Manages medical issues
            - May follow weekly to ensure weight gain
        - Dietician experienced in eating disorders
            - Nutritional education
                - Counsels patient on dietary options
                - Making healthy food choices
            - Assists in planning of individual weight goals
            - Specific meal plan/ calorie intake requirements
        - Psychologist/ psychiatrist
        - CBT has proven to be the most useful behavioral Tx for bulimia
    - Goals of treatment:
        - Restore patient to a healthy weight allowing for return of menses in the post menarcheal individual or progression through puberty in premenarcheal individual
        - Restore healthy body image
        - Remove anxiety/guilt associated with eating
        - Build healthy eating patterns
        - Prevent relapse
3. Pharmacotherapy
    - ECG prior to Tx
    - Risk of arrhythmias with some drugs
    - Less effective in tx of Anorexia
        - Manages co-morbid disorders
            - Depression
            - OCD
    - Anxiolytics
        - Can improve ability to sit for meals
    - Psychotropics (Olanzapine)
        - Not recommended by APA for primary mgmt
        - Useful for prevention of relapse
        - More helpful in tx of bulimia
    - Fluoxetine
        - Studied w/ 20mg, 60mg QD
            - Good results w/ 20 mg
        - Best results with 60 mg dosage

- 67% reduction in binge eating
- 56% reduction in vomiting

4. Criteria for hospitalization
    - American Academy of Pediatrics Policy Statement:
        - Heart rate less than 50 bpm, electrolyte imbalance, dehydration, end organ compromise
        - Refusal to eat
        - <75% of IBW or ongoing weight loss despite intensive treatment
        - Systolic BP <90
        - Temperature <96º F [<35.5º C]
        - Arrhythmia
        - Orthostatic changes in pulse (>20 bpm) or blood pressure (>10 mm Hg)
    - Society for Adolescent Medicine, 2003
        - Anorexia nervosa
            - <75% ideal body weight, or
                - Ongoing weight loss despite intensive management
            - Refusal to eat
            - Body fat <10%
            - Physiologic instability
                - Heart rate
                    - <50 bpm daytime
                    - <45 bpm nighttime
                - Systolic pressure <90
                - Orthostatic changes
                    - >20 bpm or BP (>10 mm Hg)
                - Temperature <96°F [<35.5º C]
                - Arrhythmia
            - Acute psychiatric emergency
                - Psychosis
                - Suicidal thoughts
            - Comorbidity complicating treatment
                - Depression
                - OCD
                - Severe family dysfunction

Follow-Up

1. Pending patients' level of disordered eating behaviors, frequency of office visits determined on medical stability
2. 0.5-1 lb/week weight gain is appropriate in outpatient setting
3. Assess
    - Vital signs, cardiac function, gastrointestinal symptoms and peripheral edema (refeeding syndrome)
4. Delayed gastric emptying and constipation are very commonly seen in anorectic patients
5. Stool softeners and increase in fiber are beneficial
6. Avoid stimulant laxatives

Prognosis

1. Better outcome if:
    - Younger age
    - Shorter duration of dz
2. Poor outcome if:
    - Low initial minimum weight
    - Binge/purge behaviors
    - OCD personality symptoms
    - Chronicity of behaviors

PURLs

1. Suspect an eating disorder? Suggest CBT

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