

# Fatigue

David Stultz, MD

October 30, 2002

# Doc, I'm tired all the time...

- Fatigue is a sense of tiredness and lack of energy
- Differentiate from weakness or exertion difficulty
- Should be persistent for some time before aggressive pursuit



# History

## Time and nature of onset

### –Sudden onset

- Infectious
- Postinfectious
- Ischemic
- Drugs
- Toxins



### –Gradual onset

- Metabolic
  - Uremia
  - Heart failure
  - Liver Failure
- Endocrine
  - Diabetes
  - Hypercalcemia
  - Hypothyroidism
- Electrolytes
- Anemia
- Depression

# History

- Define the fatigue
  - Tires easily with weakness
    - MS, myasthenia gravis
  - Poor sleep
    - Sleep apnea, restless legs, depression

# Causes of fatigue

- Psychiatric disease
- Infectious disease
- Malignancy
- Autoimmune disease
- Neuromuscular disease
- Endocrine
- Drugs

# Psychiatric Disease

- Depression
  - Substance abuse often coexists
  - Seasonal affective disorder
  - Dysthymia
- Anxiety disorders
- Generally uncommon in psychotic and personality disorders

# Infectious disease

- Acute infections often associated with fatigue due to immune response
- Occult chronic infections may present as fatigue
- Often infections associated with fever, chills, night sweats, myalgias, arthralgias, or weight loss

# Viruses

- HIV
- Hepatitis B and C
- Epstein-Barr virus
  - Organomegaly, + monospot
- Cytomegalovirus
  - 3-4 week process, diffuse adenopathy
  - - monospot, + CMV IgM titers
- Parvovirus B19
  - Overlap with rheumatoid arthritis symptoms



# Other chronic infections

- Occult abscess
- Endocarditis
- Histoplasmosis, Blastomycosis, Coccidiomycosis
- Parasites
  - Toxoplasmosis
  - Amebiasis
  - Giardia
  - Helminths

# Malignancy

- Fatigue is a sign of advanced disease
- Usually a side effect of radiotherapy or chemotherapy
- Risks for cancer should be assessed and pursued
  - Smoking history – lung CA
  - Altered bowel habits – colon CA
  - Chronic hepatitis – liver CA

# Autoimmune disease

- Lupus
- Rheumatoid Arthritis
- Sarcoid
- Mixed connective tissue disease

Most of the time will be associated with other symptoms, ESR, anemia, abnormal chest xray or urinalysis

# Neuromuscular disease

- Myasthenia gravis
  - Fatigability of muscle group with repetitive use
- Multiple sclerosis
  - Should include other features such as abnormal motor/sensory function, visual changes, etc.

# Endocrine

- Hypothyroidism
- Cushing's syndrome
- Addison's disease

# Cushing's syndrome

- Hypercortisolism
- Hypertension
- Obesity
- Diabetes
- Hirsutism
- Acne
- Striae

# Cushing's workup

- Elevated urinary free cortisol (>90ug/day)
- Dexamethasone suppression test
  - 1 mg dexamethasone po at 11pm
  - Serum cortisol at 8am is >10 ug/dL
- ACTH level
  - Low: adrenal hyperplasia or tumor
  - High: pituitary vs ectopic ACTH

# Addison's disease

- Hypocortisolism, hypoaldosteronism
- Hypotension
- Anorexia
- Weight loss
- Nausea/vomiting
- Increased pigmentation
- Hyperkalemia
- Non anion gap metabolic acidosis



# Addison's workup

- AM cortisol is low
- ACTH level
  - Low: secondary insufficiency, check pituitary
  - High: primary, confirm with ACTH stimulation test (cortisol fails to climb above 20ug/mL after 60 minutes)

# Drugs

- Cardiovascular
  - Beta blockers; especially nonselective
    - Propranolol, nadolol
- Antihistamines
  - OTC H1 blockers and Rx H2 blockers
- Psychotropic medications
- Elderly especially susceptible
- Trial and error approach

# Workplace

- Stress
- Toxin exposure
- Abnormal work hours



# Physical Exam

- General – note depressed affect
- HEENT
  - Look for jaundice
  - Sinus/ear infections
  - Throat for exudate, postnasal drip
- Neck – adenopathy, thyroid palpation, JVD
- Heart – murmurs, tachycardia
- Lungs - COPD

# Physical Exam

- Abdomen – organomegaly
- Genitals – masses
- Rectal – guaic, masses
- Skin – rashes, discoloration
- Lymph nodes
- Neuro – memory, gait

# Labs screening

- CBC with differential
- ESR
- Electrolytes (K<sup>+</sup>, Ca<sup>2+</sup>, CO<sub>2</sub>, BUN, Creatinine)
- TSH
- LFT's
- CK
- UA

# Labs when indicated

- Chest Xray
- ANA
- HIV
- PPD
- Hepatitis panel
- Lyme serologies
- Blood cultures

# Chronic Fatigue Syndrome

- CDC estimates 4-8 cases/100,000 adults
- 50-70% meet criteria for depression
- Implicated pathogens:
  - Brucella, coxsackie, EBV, herpes virus 6, retroviruses, lyme



# Guidelines for Chronic Fatigue

- Evaluated, unexplained, persistent or relapsing fatigue with
  - New or definite onset
  - Not due to exertion
  - Not relieved by rest
  - Substantial reduction in premorbid function
    - Mental and physical
  - Sore throat
  - Tender adenopathy
  - Myalgias and arthralgias without joint swelling
  - Headaches
  - Postexertional malaise lasting more than 24 hours

# Chronic Fatigue

- Prognosis generally good
- SSRI's, low dose tricyclic antidepressants can be of benefit
- Fish oil supplements beneficial
- Not helpful: acyclovir, immunoglobulins, interferon alpha, magnesium sulfate