Update in Cancer-Related Fatigue

Cancer-Related Fatigue (CRF) is a distressing persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.

**Update in Cancer-Related Fatigue**

**Pathophysiology**

- Abnormal secretion of substances (cytokines or antibodies) that impair metabolism or affect normal muscle function
- Abnormalities in energy metabolism relating to increased requirements (secondary to tumor growth, infection or treatments)
- Decreased availability of metabolic substrates (anemia, malnutrition, hypoxemia)

**General Strategies for CRF Management**

- Self-monitoring of fatigue level
- Energy conservation
  - Set Priorities
  - Pace
  - Delegate
  - Schedule activities at times of peak energy
  - Labor-saving devices
  - Postpone nonessential activities
  - Limit naps to 20-30 minutes or less

**Approaches to Patients with CRF**

- None to mild (0-3)
  - Education
  - General strategies to manage fatigue
- Moderate (4-6) or Severe (7-10)
  - Education
  - General strategies to manage fatigue
  - Primary evaluation

**Primary Evaluation for CRF**

- Focused history
  - Disease status and treatment
  - Re-occurrence or progression
  - Current meds/med changes
  - Prescriptions/OTC’s/supplements
Update in Cancer-Related Fatigue Primary Evaluation for CRF (cont’d)
- Review of systems
- In-depth fatigue history
  - Onset, pattern, duration
  - Change over time
  - Associated or alleviating factors
  - Interference with function

Update in Cancer-Related Fatigue Assessment of Treatable Contributing Factors (cont’d)
- Comorbidities
  - Infection
  - Cardiac dysfunction
  - Pulmonary dysfunction
  - Renal dysfunction
  - Hepatic dysfunction
  - Neurologic dysfunction
  - Endocrine dysfunction

Update in Cancer-Related Fatigue Assessment of Treatable Contributing Factors
- Pain
- Emotional distress
  - Anxiety
  - Stress
  - Depression
- Anemia
- Sleep disturbance
  - (obstructive sleep apnea, insomnia, restless leg syndrome, etc.)

Update in Cancer-Related Fatigue Interventions
- Non-Pharmacologic
- Pharmacologic

Update in Cancer-Related Fatigue Non-Pharmacologic Interventions
- Activity Enhancement *
- Psychosocial Interventions*
- Sleep Therapy
- Nutrition Consultation

(*strongest evidence base)
**Update in Cancer-Related Fatigue**

**Exercise (category 1)**
- Regime individualized
  - Patient age and gender
  - Type of cancer present
  - Cancer therapy receiving
  - Physical fitness level

**Summary of Exercise Studies**
- Studies include patients receiving active treatment and those who have completed treatment
- Designs vary; sample sizes often small – many series limited to women with breast cancer
- Type of aerobic exercise is variable (walking, exercise bicycling, resistance training or patient allowed to choose exercise preferred)
- Varied in lengths from 6 weeks – 6 months

**3 Comprehensive Reviews**
- Benefits of exercise:
  - Fatigue
  - Emotional distress
  - Sleep disturbance
  - Functional quality, better QOL

  Kangas et al. Psychol Bull 2008
  Mohe et al. Cochrane Database Syst Rev 2012

**Psychosocial Interventions**
- Cognitive behavioral therapy/Behavioral therapy (category 1)
- Psycho-educational therapies/Educational therapies (category 1)
- Supportive expressive therapies (category 1)

**Sleep Therapy**
- Significant disturbances (insomnia, hypersomnia)
- Effective sleep interventions:
  - Stimulus control (consistent time lying down and getting up, avoiding caffeine and stimulating evening activity)
  - Sleep restriction (avoiding long or late afternoon naps, limiting time in bed to sleep normally obtained)
- Education and counseling on sleep hygiene
- Pharmacologic

**Nutrition Consultation**
- Education
- Appropriate referral to nutritionist
- Pharmacologics as appropriate (antiemetics)
Update in Cancer-Related Fatigue

Pharmacologic Interventions

- Stimulants
- Antidepressants
- Steroids

Stimulants
- Methylphenidate (short/long acting)
- Modafinil
- Armodafinil

Antidepressants
(Used if depression coexists with fatigue)
- Selective serotonin-reuptake inhibitors
- Secondary amine tricyclics
- Bupropion

Low-Dose Corticosteroids
(Used in patients with advanced cancer)
- Dexamethasone
- Prednisone

Yoga and Acupuncture
- Fatigue and Sleep
- Fatigue
- Gen/physical subscales
- Mental/emotional or vigor

Alternative Therapies

Summary
- CRF is a significant issue for cancer patients and cancer survivors
- Healthcare providers should routinely query patients regarding fatigue, and patients should be proactive and routinely request information about this symptom
- Patients should alert health care providers when fatigue occurs and request appropriate evaluation and treatment
- There are interventions that may improve fatigue