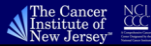


Combating Fatigue Bone Marrow Failure Disorders

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Objectives

- Understand definition and impact of fatigue on bone marrow failure disorders
- Discuss treatment option to combat fatigue
- Learn about current research on Fatigue/anemia in bone marrow disorders



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What is Fatigue

- Bone marrow disorders include a range of conditions that impair function of bone marrow
- Fatigue can range from mild to severe depending on disease
- Data on fatigue and bone marrow failure diseases is scarce
- Most information on cancer related fatigue (CRF)



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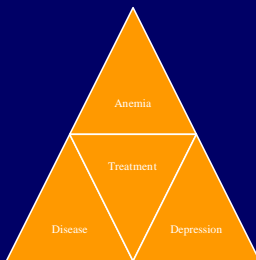
Definition By NCCN

- 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.

Common Disease that Cause Fatigue

- Common in heart failure, multiple sclerosis, fibromyalgia, anemia, lung disease, kidney disease, cancer

Fatigue is Multifactorial



Fatigue is the Under Dog

- Under diagnosed
- Underreported
- Undertreated



Myths about Fatigue

- You should have fatigue because you are getting treatment
- You should rest more
- You are just depressed
- You are thinking about it too much



Interesting Research

- Article Quality of Life and physician perception in MDS
- Compared physician assessments of QOL with patient
- Hemoglobin (Hgb) are associated with QOL in MDS (most important factor)

Finding in study

- Hemoglobin (Hgb) are associated with QOL in MDS (most important factor)
- Poor QOL seen in patients with more than one co-morbid condition
- Mostly MDs and patients scores agreed
- When they differed, MD tend to be more positive about answers

Quality of Life

- Inferior QOL reported in patients that are chronically transfused versus those who are not
- QOL improved in patients whose Hgb levels were increased with Erythropoietin
- Cost higher in patients receiving regular transfusions

Question

- How many of you can say that you have been fatigued over the past few months related to your disease?

Answer!

- Most of you!!
- Some reports indicate that over 75% of cancer patients experience fatigue
- Fatigue is a symptom that is described even after treatments/cancer are completed for months and even years

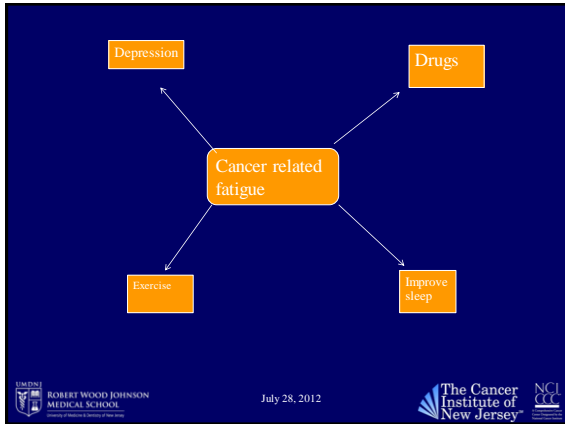


Truth about Fatigue

- Hypothesis of CRF caused by physical and chemical reactions they include:
- Muscle wasting
- Sleep
- Circadian rhythm
- Hemoglobin
- Cytokines
- Low cortisol levels
- Alterations in neurotransmitters (Ryan et al, 2007)

Ways to Treat Fatigue

- Exercise
- Medical treatment
- Nutrition
- A good night's sleep!



Exercise and Fatigue

- Study reviewed current literature on exercise and fatigue
- The data suggests physical activity is associated with reduced rates of mortality, improved immune function, improved quality of life, decreased fatigue, improved fitness, maintenance of healthy weight and bone density (Sebastian & Brunet, 2011)

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Exercise and Fatigue

- Studies are lacking because they are mostly done on breast cancer patients and not randomized (meaning some patients exercise and other don't and a comparison is made)

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Question

- How many of you exercise when you are fatigued?



Medicine & Fatigue

- Medicine- (pschostimulants)
- Treatment of anemia
- Treatment of depression



Treatment associated with Fatigue

- Erythropoietin-stimulates red cell production in bone marrow
- Pschostimulants-modofinal
- Antidepressants
- Transfusional support
- Iron lowering agents

Psychosocial Impact of Fatigue

- ➔ Support Groups
- ➔ Psychotherapy
- ➔ Use of exercise

Livestrong

- LIVESTRONG at the YMCA is a 12 week program designed for adult cancer survivors who have become weak or from treatment and/or disease
- Free program
- Objective is to help patients build muscle mass and muscle strength, increase flexibility and endurance, and improve functional ability

Conclusion

- Not enough studies available for fatigue related to bone marrow failure disorders
- Large percentage of patients with cancer with have fatigue
- Treatments such as medications, exercise, diet, treatment of anemia and depression can combat this devastating symptom
