Fatigue is the most common problem experienced by oncology patients.[1-2] In this issue of ONCOLOGY, Drs. Lesage and Portenoy present an excellent overview of the potential etiologies, assessment parameters, and treatment options for this complex, multidimensional symptom. As they note in their comprehensive review, research on this symptom, which has a significant impact on oncology patients’ ability to function and quality of life, is limited. Therefore, one is left to consider what important research questions need to be answered regarding cancer-related fatigue.

Pain-Fatigue Parallels
Because of the similarities between pain and fatigue (eg, both are subjective phenomena and multidimensional problems, with complex etiologies and multiple treatment options that need to be individualized), it may be beneficial to examine the conceptual ideas and research approaches that led to the greatest advances in our understanding of pain mechanisms and pain management and determine whether these ideas and approaches could be applied to investigations of cancer-related fatigue. It should be noted that some of the most important ideas and approaches regarding pain mechanisms and management evolved after years of research and clinical experience. Perhaps we can capitalize on the ones that enhanced our knowledge and apply them to more quickly improve the management of cancer-related fatigue.

Determining the Etiology
One of the cardinal principles of effective pain management is to ascertain the etiology or cause of the pain. For most pain management plans to be effective, they must focus on eliminating or ameliorating the cause of the pain. Although Drs. Lesage and Portenoy point out that there are likely to be multiple etiologies for cancer-related fatigue, the major priority of research is to identify the molecular and biochemical mechanisms that underlie its development. Clinicians often discount patients’ subjective reports of pain when a recognized etiology is not evident. Likewise, clinicians discount patients’ subjective reports of cancer-related fatigue because the underlying mechanisms are unknown.

Our understanding of the peripheral and central mechanisms that result in the development of acute and chronic pain was greatly enhanced when appropriate animal models were developed and used to evaluate the effects of mechanism-based interventions. Until scientists begin to collaborate with clinicians to develop animal models for cancer-related fatigue, progress in mechanistic-based interventions will be slow.

Pharmacologic Interventions
An additional reason to identify the molecular and biochemical mechanisms of fatigue is to initiate the development and testing of pharmacologic interventions. Most research on the management of cancer-related fatigue has focused on the use of nonpharmacologic strategies (eg, exercise, modification of daily activities, initiation of sleep hygiene principles). These interventions are
directed at ameliorating the symptom, not treating the underlying cause of the problem. Until the fundamental mechanisms that underlie the development of cancer-related fatigue are elucidated, little progress will be made in the treatment of this complex symptom.

**Categorizing Symptoms**

Another research approach that proved fruitful in pain research was the systematic investigation and categorization of a variety of pain syndromes. This approach was particularly effective in cancer pain management.[3] Detailed epidemiologic studies of cancer-related pain led to the classification of a variety of somatic, visceral, and neuropathic pain phenomena associated with specific cancers and cancer treatments.

Although similar research has already been initiated for cancer-related fatigue, it needs to proceed in a more systematic fashion. For example, detailed epidemiologic studies of the patterns of fatigue associated with various cancer treatments must be conducted to determine specific times for targeting interventions. Equally important is the need to determine the length of time that patients experience fatigue following the completion of cancer therapy (as well as posttreatment etiologies), because recent studies suggest that fatigue is a problem for cancer survivors.[4-5]

**Conclusions**

Until epidemiologic and mechanistic studies of cancer-related fatigue are completed, clinicians must assess and treat this problem based on empiric evidence. Patients need to be told that fatigue is a complex problem that should not be ignored, but rather, managed with a variety of interventions. Moreover, patients should be taught a variety of self-care strategies that may help to ameliorate this distressing symptom.

**References:**


**Links:**

[1] [http://www.rheumatologynetwork.com/review-article](http://www.rheumatologynetwork.com/review-article)

[2] [http://www.rheumatologynetwork.com/authors/christine-miaskowski-phd-rn](http://www.rheumatologynetwork.com/authors/christine-miaskowski-phd-rn)