Care of the Patient with Fatigue

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General Principles

Background

Fatigue is a common complaint in the primary care setting, with reported prevalence ranging from 5 % to 10 % [1]. With such a broad differential to consider, determining the cause of fatigue and helping the patient to find the appropriate treatment can be a daunting task. Similarly, chronic fatigue syndrome (CFS), a syndrome which arises in the setting of numerous biological, psychological, and social factors, can pose a diagnostic and treatment dilemma for the family physician.

Although fatigue has been described since the beginning of written history, it was not until 1896 that Beard first coined the term *neurasthenia*, a condition resulting from the depletion of the energy of the central nervous system [2]. Over time, various terms have been use to describe similar illnesses, with various etiologies proposed, ranging from environmental changes associated with modern living to immunological and postinfectious, including Epstein Barr virus infection [2]. Fatigue in most patients is multifactorial, and the diagnosis of chronic fatigue syndrome is one of exclusion. It is thought to arise from a combination of genetic, neurological, immunological, and social factors, without one specific etiology. In this chapter, the evaluation of fatigue will be reviewed as well as the approach to diagnosis and treatment for CFS.

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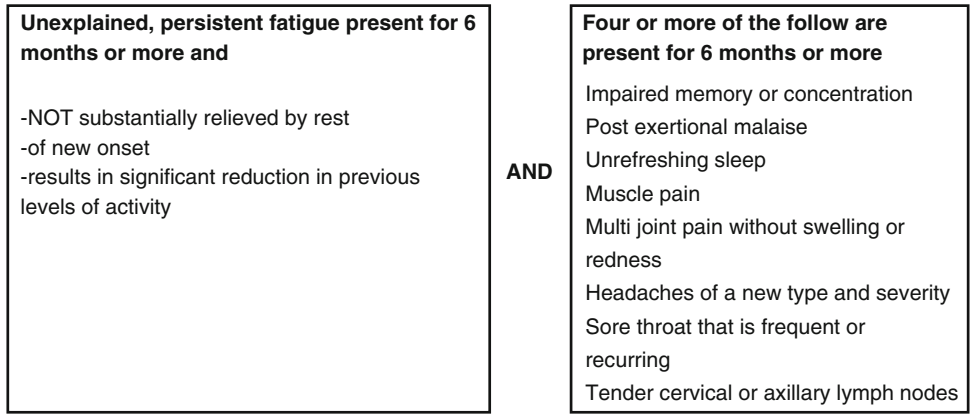

Fig. 1 CDC criteria for diagnosing chronic fatigue syndrome [4]

Epidemiology

While fatigue is a commonly reported symptom in the primary care setting, CFS is far less common. The prevalence of CFS has been noted to be similar across many different cultures and countries but does vary between studies. Epidemiological studies of two US cities demonstrated rates between 0.23 % and 0.42 % [2, 3]. CFS is more common in adults than children and also more common in women and minorities [3]. Special considerations for diagnosis and treatment of CFS in these populations are discussed later in this chapter.

Approach to the Patient

Diagnosis

The differential diagnosis of fatigue encompasses many medical and psychiatric conditions including metabolic, infectious, sleep disorders, depression, and malignancy, just to name a few. When fatigue is present for more than 6 months and no laboratory or physical abnormalities are found, the diagnosis of CFS can be considered.

The diagnosis of CFS is one of exclusion, requiring the family physician to rule out other conditions that can present with similar symptoms. Diagnostic criteria published by the CDC in 1994 offer a framework upon which to evaluate patients with long-standing fatigue [4]. These criteria, which were initially developed for the purposes of defining a specific population for research, are also helpful to the family physician considering the diagnosis of CFS (Fig. 1).

History

In addition to assessing for the above symptoms, a detailed history should focus on the time course of the fatigue, the patient's social history including drug and alcohol use, and current use of medications and supplements [4]. It is also important to consider the medical and psychosocial context within which the fatigue developed as well as prior history of trauma and the social support system of the patient [5]. These components of the history are important, not only for making an initial diagnosis but also for designing a treatment plan tailored to the patient's individual needs and available resources.

Physical Examination

Physical examination of the patient with fatigue should be focused on assessing for underlying infection, inflammatory conditions, and metabolic disorders in addition to gaining an overall sense of the patient's well-being and function.

Complete blood count with differential
Basic Metabolic Panel
Calcium
Phosphorous
Liver function tests (including AST, ALT, alkaline phosphatase)
Albumin
Total Protein
ANA
Rheumatoid Factor
TSH and Free T4
Ferritin (especially in children and adolescents)
UA for protein, blood and glucose
Testing for gluten sensitivity

Fig. 2 Tests to consider in evaluating for underlying causes of fatigue [4, 6]

Laboratory Testing and Imaging

When evaluating the cause of fatigue, prior to considering CFS as the potential diagnosis, it is important to first look for other underlying causes of fatigue. Not all tests listed in this chapter are indicated for all patients. Laboratory testing should be directed at the patient's symptoms and clinical presentation. For example, testing for viral or bacterial infections is not indicated unless the history and/or physical exam indicates an infection may be present [6] (Fig. 2).

If the above indicated laboratory testing is within normal limits and no other underlying medical or psychiatric conditions can explain the patient's fatigue, the diagnosis of CFS should be considered. If the patient does not meet all of the criteria for CFS but no other etiology has been determined the diagnosis of idiopathic chronic fatigue or a CFS-like illness can be made [4].

Treatment

Patient perception lies at the heart of treatment of CFS. Predictors of improvement in symptoms were not related to disease severity or chronicity of the patient's fatigue in one British study but rather the patient's attitudes and beliefs surrounding the illness [7]. For example, patients who participated in support groups had a lower treatment response than those who did not, largely because the group patients tended to participate in reinforced certain illness beliefs as well as exercise avoidance [7]. The two treatments for CFS with the best evidence are cognitive behavioral therapy (CBT) and graded exercise therapy (GET). Both are thought to have an impact on the patient's beliefs about fatigue and their own limitations secondary to their fatigue. A change in patient beliefs surrounding fatigue as well as improving patient's sense of empowerment and self-efficacy whether by CBT or GET is likely to be beneficial for a patient CFS.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) has been demonstrated in several studies as more effective than usual care or other psychological treatments including relaxation, counseling, and relaxation/support, though the data on the long-term effects of this are inconclusive [8]. More research is needed into whether CBT or CBT in combination with other therapies such as graded exercise is most optimal, as well as the acceptability of CBT among patients with CFS [8]. Given its demonstrated benefit, at least in the short term, it would be reasonable to offer CBT as a treatment modality to a patient with CFS regardless of the duration or severity of symptoms. CBT can also be directed at other problematic symptoms experienced by patients with CFS, such as chronic pain, depression, and poor sleep.

Graded Exercise Therapy

Graded exercise therapy (GET) has been demonstrated to be beneficial for patients with CFS [5, 6]. GET is thought to work synergistically with CBT because it provides a practical context for the cognitive restructuring around fatigue that effective CBT encourages [9]. In one review of 12 studies of GET and CFS, it was determined that in order to obtain maximum benefit from GET, patients should be encouraged to focus on a

time-contingent approach, rather than symptom-contingent approach, as well as to engage in aerobic exercise as determined by an individually derived target heart rate [9]. Patients can also engage in a home exercise program of 5–15 min per session five times per week and gradually progress to up to 30 min. [9] Given the sensitivity of many patients with CFS to exertion, activity undertaken by patients with this diagnosis should be closely supervised by a medical professional, in order to prevent overexertion and worsening of fatigue.

Medication

Pharmacotherapy, including nutritional supplements, outside of the use of medication for specifically diagnosed comorbidities, has not been shown to be beneficial in CFS [5, 6, 10]. In one Australian study, patients with CFS reported taking a wide variety of prescribed medications such as sedatives and antidepressants in addition to over-the-counter supplements in an effort to gain relief from their symptoms. [10] Patients with CFS are often very sensitive to medication, and this in addition to the side effect profiles of many of these medications make them a less desirable treatment option for patients with CFS. On the other hand it is crucial to treat comorbid conditions, particularly those that have an effect on the patient's level of functioning. While the addition of an antidepressant or other medication in the absence of a diagnosis of a comorbid condition such as major depression has not been demonstrated to be helpful, when the diagnosis of depression is made, it is an important part of the patient's overall medical care [11].

Referrals

Specialist involvement in the care of patients with fatigue should focus on the treatment of comorbid conditions and underlying causes as determined by history, laboratory workup, or physical exam. Additionally, rheumatology consult can be considered. It is important to remember, however, that the family physician plays a particularly important role in the care of patients with CFS, because coordinated care is central to the improvement in symptoms [6].

Patient Education and Activation

Patient education and involvement are central to the treatment of CFS. The patient's perception of fatigue and of their own self-efficacy play a large role in determining their response to treatment of any kind; patient engagement and activation is absolutely critical to success [3].

Chronic Fatigue Syndrome in Children

Although CFS is thought to be less prevalent in children and adolescents than in adults, a wide range of prevalence of CFS in adolescents is thought to be between 0.11 and 1.29 % found in Dutch, US, and British populations [12]. As in adult populations, the diagnosis of CFS in children and adolescents is one of exclusion, and a detailed history and physical along with any indicated laboratory tests is indicated. In addition to the tests recommended for adults, serum ferritin should be strongly considered in children and adolescents presenting with fatigue. Two thirds of adolescents responded to CBT in one study after 6 months of treatment, and this treatment effect was sustained at 2–3 year follow-up [12]. Making a prompt diagnosis and getting children and adolescents into the appropriate treatment is of the utmost importance, as these determine the prognosis for the child's recovery [12].

Chronic Fatigue Syndrome in Elderly Adults

Fatigue is a prevalent concern in the elderly with some estimates of prevalence greater than 70 % [13]. While fatigue does tend to occur with normal aging, it is important to rule out underlying conditions that may result in fatigue. It is estimated that up to two third of elderly patients presenting

with fatigue will have a cause found on history, physical and/or laboratory evaluation [13]. The same diagnostic criteria for CFS apply to the elderly as to the general adult population, but special attention should be paid to ruling out psychiatric and neurological conditions, including depression and dementia. In addition to this special care should be taken in elderly patient populations to assure appropriate social support, especially if the diagnosis of CFS is made.

Chronic Fatigue Syndrome in Underrepresented Minority Populations

The prevalence of CFS is thought to be higher in minority groups, but the diagnosis in these patient populations can be more difficult if the family physician is not aware of the social and cultural context within which the patient presents [3]. One study in the UK looked at why the diagnosis is made less frequently in black and minority ethnic groups when compared to groups of white patients [14]. Their findings suggest that there was a lack of awareness of CFS among this patient population, lack of access to primary care, as well as incorrect assumptions and beliefs among physicians. They cited higher turnover of primary care physicians in inner city practices as well as lack of training in cultural sensitivity as contributing to this problem. They point to the importance of an ongoing relationship with a primary care physician as an important aspect of obtaining the correct diagnosis and providing quality care for this patient population [14].

Family and Community Issues

CFS can produce both community economic hardship through the loss of occupational productivity but also family hardship in a family for whom one member is not able to fully participate in its day-to-day operation. Focusing on function and helping patients work with their families to improve their understanding of their illness and address their fatigue is one way in which family physicians can help patients to participate more fully both at home and at work.

Conclusion

Fatigue is a symptom that is commonly reported to the family physician, and CFS is an illness which helps family physicians conceptualize and treat fatigue for which no clear etiology can be found. Patients complaining of fatigue should have a thorough history, physical examination, and laboratory workup as outlined above. The diagnosis of CFS should be considered in any patient with fatigue for greater than 6 months and associated symptoms as outlined in the diagnostic criteria created by the CDC. The workup of fatigue varies depending on the patient population and presenting complaints. It is important to evaluate fatigue in the context of the patients' social situation, emotional well-being, and ability to act with self-efficacy as these are all important things to be addressed if interventions are to be successful. Coordination of care and a strong therapeutic alliance predict success in the treatment of CFS.

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